XXXIII

REPORT OF THE DIRECTOR OF THE MUSEUM FOR THE YEAR 1923

By BARTON WARREN EVERMANN
Director of the Museum

The annual report of the Director for the year 1922 was presented to the Academy at the annual meeting, February 21, 1923. During the past year the activities of the Museum have continued in a satisfactory way and very considerable additions and improvements have been made; these will be fully presented in their respective appropriate places.

Personnel

The personnel of the Museum has undergone only slight change in the year, the employes of the Academy at this date being as follows: Dr. Barton Warren Evermann, Director and Executive Curator of the Museum, Editor of the Academy publications, and Director of the Steinhart Aquarium; W. W. Sargeant, Secretary to the Board of Trustees; Miss Susie M. Peers, Secretary to the Director; Joseph W. Hobson, Recording Secretary; Miss Alice Eastwood, Curator, and Mrs. Kate E. Phelps, assistant, Department of Botany; Edward P. Van Duzee, Curator, Dr. F. R. Cole, Curator in Dipterology, and J. O. Martin, assistant, Department of Entomology; Dr. John Van Denburgh, Curator, and Joseph R. Slevin, assistant curator, Department of Herpetology; Dr. G. Dallas Hanna, Curator, Dr. Roy E. Dickerson and F. M. Anderson, honorary curators, Merle Israelsky, assistant curator, and William Barbat, temporary assistant, Department of Invertebrate Paleontology; Joseph Mailliard, Curator, and Miss Mary E. McLellan, assistant curator, Department of Ornithology and Mammalogy; Dr. Walter K. Fisher, Curator, Department of Invertebrate Zoology; Frank Tose, Chief taxidermist, Chandler Smith, Russell Hendricks, Douglas Kelly and Cecil Tose, student assistants, Department of Taxidermy; Edward P. Van Duzee, assistant librarian, Mrs. Helen Van Duzee, library assistant, and Dean Burk, temporary library assistant; Wm. C.

Lewis, janitor; George W. Edwards, assistant janitor; Frank W. Yale, assistant janitor; Raymond L. Smith, doorkeeper and general assistant; J. H. Kavanaugh, day watch; Archie McCarte, night watch; Mrs. Johanna E. Wilkens, janitress.

Accessions to the Museum and Library

As in the past, the accessions to the museum and the library have been many and valuable. A few of the more notable are mentioned in the President's report and a detailed list will be found in the appendix to this report (pp. 1269-1278).

Co-operation with Public and Private Schools

Co-operation with the schools in their educational work has been more close and effective than in any previous year. Appreciation of the educational value of visits to the Museum for the purpose of studying the habitat groups and other collections seems to be growing among the teachers and school officials and schools are visiting the Museum in increasing numbers. Within the year our taxidermists have completed eleven portable habitat groups designed as loan exhibits for use in the public schools. The groups are as follows: Western Meadow Lark, Western Robin, California Woodpecker, San Francisco Towhee, Barn Owl, Least Sandpiper, Killdeer, Western Savannah Sparrow, California Ground Squirrel, Redwood Weasel, Sierra Chickaree, Sierra Golden-mantled Ground Squirrel and Spiny Pocket Mouse. These are now being circulated in the Berkeley and San Francisco public schools, under the immediate supervision of Mrs. Anna V. Dorris, Director of Visual Instruction in the Berkeley Public Schools.

Other exhibits of this character will be prepared as time and materials permit. It is to be regretted that we have not two or three expert preparators who can devote all their time to the preparation of exhibits suitable for loan to the schools.

The Director and various members of the staff have been called upon to lecture before various schools, clubs and elsewhere in the interest of public education. The requests that come to the Director for lectures have been more numerous than he could accept.

The number of teachers and students who come to the Museum to examine and study specimens in our research collections is increasing and the number of pupils that come *as schools with their teachers* to study the habitat groups and other exhibits is also increasing, the numbers for the year 1923 being as follows:

Schools of San Francisco:	
Number of classes	185
Number of teachers	167
Number of pupils	5225
Schools Outside of San Francisco:	
Number of classes	52
Number of teachers	51
Number of pupils	1095
Grand Totals:	
Total number of classes	237
Total number of teachers	218
Total number of pupils	6320

VISITORS TO THE MUSEUM

The Museum has been open to the public every day in the year. The popularity of the Museum seems unabated. The recognition of the educational value of the exhibits seems more pronounced than ever before. The total number of visitors during the past year was 498,775. The number by months and years since the opening, September 22, 1916, is shown in the following table:

Month—	1916	1917	1918	1919	1920	1921	1922	1923
January		23170	25260	17241	27013	25755	19038	15270
February		22058	23698	17586	23450	25679	18534	20529
March		31606	26810	27397	25419	28279	27922	26341
April		32175	23274	25994	32208	24939	36057	21911
May		26154	26391	28369	37107	25517	27237	37597
June		32123	29843	32248	36207	29406	27131	39511
July		37193	31420	48028	52492	43186	36263	64530
August		24619	31137	43730	53470	39422	34787	50849
September	16448	27866	29847	34007	42013	31458	28408	69870
October	36933	20629	14743	30463	33500	24861	19459	66894
November	27718	21810	8531	25246	19347	18593	19080	48766
December	15002	21693	19588	21188	21340	15062	13339	36707
Total	96101	321096	290542	351497	403566	332157	307255	498775

DEPARTMENT ACTIVITIES

The same spirit of enthusiasm, industry, loyalty, and hearty cooperation which has always characterized the members of the staff continues undiminished. It is this splendid characteristic that has enabled the Museum to accomplish so much with its limited resources, and I wish to take this opportunity to express my appreciation.

The activities of the various departments will be set forth fully in the reports of the respective curators; only brief mention of some of them need be made here.

Miss Eastwood, curator of botany, spent a few days in early September in northern Lower California, where she obtained a considerable collection of herbarium specimens. Brief trips made by the curator to various California localities resulted in small but valuable collections.

Mr. Van Duzee, curator of entomology, made short collecting trips to the Potholes and Yuma, to the San Bernardino Mountains, to San Diego County and the northern portion of Lower California, and the vicinity of Mt. Diablo and Pittsburg.

Dr. Van Denburgh and Mr. Slevin of the department of herpetology, as guests of the Mexican Government, made an extended collecting trip into the San Pedro Martir Mountains, in northern Lower California, where they obtained many valuable specimens. They also spent some time collecting in San Diego, Imperial, Orange, Riverside and Los Angeles counties, in southern California, and on Todos Santos Islands, Lower California.

The growth of the Library has been slower than it should have been. Larger appropriations are required for the purchase of books that are seriously needed in the work of the various departments and for binding books and pamphlets that should be bound in order to prevent injury.

Mr. Mailliard of the departments of mammalogy and ornithology, assisted by Mr. Frank Tose, chief taxidermist, spent one week in April at the Potholes, where good collections of birds and the smaller mammals, including material for several habitat groups, were obtained. In April to June field work was carried on by Mr. Mailliard in Shasta, Lassen, and Modoc counties, followed by work in Butte and Lassen counties and in Marin County.

Dr. Hanna, curator of invertebrate paleontology, made several short trips to various parts of the State which resulted in the addition of valuable collections to that department.

Meeting of the Pacific Division of the American Association for the Advancement of Science and its Affiliated Societies

The 1923 meeting was held at Los Angeles September 17-20, in the buildings of the University of Southern California, in conjunction with the Summer Session of the American Association for the Advancement of Science. The meeting proved to be one of the most successful and interesting the Division has ever had. The meetings of the various affiliated societies were of unusual interest, particularly those of the Astronomical Society of the Pacific, due in large part to the large number of astronomers who had come to southern California on account of the eclipse of September 10.

The Academy was well represented in the attendance and on the various programs. Professor E. P. Lewis delivered the Presidential address on the evening of September 17, his subject being "The Contributions of Astronomy to Civilization." Vice-President C. E. Grunsky presided at most of the general sessions. Among the members of the Academy who were in attendance and many of whom were on the program were the following: Clinton G. Abbott, Le Roy Abrams, Robert G. Aitken, W. E. Allen, F. M. Anderson, Alfred W. Anthony, Ralph Arnold, Edward A. Beals, A. J. Basinger, S. Stillman Berry, Charles Lewis Camp, Douglas H. Campbell, Bruce L. Clark, F. C. Clark, John N. Cobb, Frank R. Cole, Alfred Cookman, John Adams Comstock, Donald R. Dickey, E. T. Dumble, W. F. Durand, Alice Eastwood, E. O. Essig, Barton Warren Evermann, Joseph Grinnell, C. E. Grunsky, G. Dallas Hanna, W. B. Herms, A. Brasier Howell, Merle C. Israelsky, Edmund C. Jaeger, David Starr Jordan, J. S. Kingsley, C. B. Lastreto, Eugene Law, A. O. Leuschner, E. P. Lewis, Chas. B. Lipman, D. T. MacDougal, E. G. Martin, Isabel McCracken, George F. McEwen, John C. Merriam, Elmer G. Osterhoudt, G. P. Rixford, Mrs. Dorothea K. Roberts, W. W. Sargeant, N. B. Scofield, Alvin Seale, Chester Stock, C. S. Stoltenberg, James Rollin Slonaker, F. B. Sumner, Walter Penn Taylor, Will F. Thompson, Sidney Dean Townley, Edward P. Van Duzee, A. G. Vestal, Alfred O. Woodford, and W. S. Wright.

Use of the Academy's Library and Collections by Investigators and Students

During the year the number of investigators, students and teachers who have made use of the library, study collections and laboratories was larger than ever before.

From time to time young men interested in natural history have expressed the wish that the Academy might offer instruction in methods of collecting and in taxidermy. In order to meet this demand our chief taxidermist arranged to receive as student assistants members of the Academy or members of their families who desire instruction along those lines. Among those who have availed themselves of this opportunity to learn the principles and methods of natural history collecting and taxidermy are the following: C. P. Russell, Chandler Smith, Russell Hendricks, Douglas Kelly, and Cecil Tose.

The Boy Scouts, under Scout Master Harold E. Hansen, continue to hold their regular weekly meetings in the Academy's Auditorium.

Publications by the Museum Staff

The curators and others connected with the Museum staff have been active in contributing to the literature of their respective subjects. The list of their contributions for 1923 is as follows:

Evermann, Barton Warren

1. Conservation of the Marine Life of the Pacific. <Mid-Pacific Magazine, Vol. XXV, No. 4, pp. 303-328, April, 1923.
2. The Steinhart Aquarium. <The Oakland Tribune, April, 1923.
3. Red Snappers and That Sort of Thing. <Outdoor Life, Vol. LI, No. 5, pp. 333-336, May, 1923.
4. The Pelicans of Pyramid Lake. <Overland Monthly, Vol. LXXXI, No. 1, pp. 16-18 and 45, May, 1923.
5. The Conservation of the Marine Life of the Pacific. <Scientific Monthly, Vol. XVI, No. 5, pp. 521-538, May, 1923.
6. The Fishery Resources of the Pacific. <The Catalina Islander, Vol. X, No. 16, pp. 1-2, May 2, 1923; continued in Vol. X, No. 17, May 9, pp. 1-2 and 10; No. 18, May 16, pp. 1-2; No. 19, May 23, pp. 2, 4, 5, 8.
7. The Marine Life of the Pacific. <Trans. Commonwealth Club of California, Vol. XVIII, No. 3, pp. 105-119, May, 1923.
8. Notes on Fishes from Apia, Samoa. <Copeia, No. 119, pp. 70-71, June 16, 1923 (with Alvin Seale).

9. Notes on Fishes from Guadalcanar, Solomon Islands. <Copeia, No. 120, pp. 77-78, July 20, 1923 (with Alvin Seale).
10. The Seals and Otters of the Pacific. <Fur Trade Review, August, 1923, pp. 94-100.
11. Report of the Director of the Museum for the year 1922. <Proc. Calif. Acad. of Sci., 4th Ser., Vol. XI, No. 23, pp. 663-700, August 22, 1923.
12. The Steinhart Aquarium and its Hawaiian Fishes. <Aloha, Vol. 4, No. 7, pp. 3-5, September, 1923.
13. The Pacific Fisheries as Contributors to the Wealth of the Nation. <San Francisco Business, Vol. 7, No. 11, pp. 8-9, September 14, 1923.
14. Dr. Richard Gause Boone. <The Sierra Educational News, Vol. XIX, No. 8, pp. 469-470, October, 1923.
15. The Steinhart Aquarium. <California Fish and Game, Vol. 9, No. 3, pp. 106-108, July, 1923.
16. The Steinhart Aquarium opened at San Francisco. <California Fish and Game, Vol. X, No. 44, pp. 1-2, November 14, 1923.

Slevin, Joseph R.

1. Expedition of the California Academy of Sciences to the Gulf of California in 1921. General Account. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XII, No. 6, pp. 55-72, map, June 2, 1923.

Van Denburgh, John

1. A New Subspecies of Watersnake (*Natrix vibakari ruthveni*) from Eastern Asia. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XIII, No. 2, pp. 3-4, July 26, 1923.

Van Denburgh, John, and Slevin, Joseph R.

1. Preliminary Diagnoses of four New Snakes from Lower California, Mexico. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XIII, No. 1, pp. 1-2, July 25, 1923.

Mailliard, Joseph

1. Field Work Among the Birds and Mammals of the Northwest Coast of California in 1921. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XII, No. 1, pp. 1-26, January 2, 1923.
2. The Tree Swallow Added to the Pribilof List. <Condor, Vol. XXV, No. 1, p. 31, January 17, 1923.
3. Census of Birds' Nests in the Music Concourse, Golden Gate Park, San Francisco, Calif. <Gull, Vol. 5, No. 3, pp. 2-3, March, 1923.
4. An Explanation of a Seeming Discrepancy. <Condor, Vol. XXV, No. 3, p. 108, May 19, 1923.
5. How is This for Conservation of Wild Life? <Condor, Vol. XXV, No. 4, pp. 125-126, July 28, 1923.
6. Early Nesting of Nuttall Sparrow in Golden Gate Park. <Condor, Vol. XXV, No. 4, p. 133, July 28, 1923.
7. Expedition of the California Academy of Sciences to the Gulf of California in 1921. The Birds. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XII, No. 24, pp. 443-456, August 21, 1923.

8. Report of the Department of Exhibits, California Academy of Sciences, for 1922. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, Nos. 22-23, pp. 678-679, August 22, 1923 (in Report of Director for 1922).
9. Report of the Department of Mammalogy, California Academy of Sciences, for 1922. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, No. 23, pp. 682-683, August 22, 1923 (in Report of Director for 1922).
10. Report of the Department of Ornithology, California Academy of Sciences, for 1922. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XI, No. 23, pp. 683-684, August 22, 1923 (in Report of Director for 1922).
11. Further Notes on the Birds and Mammals of Siskiyou County, California. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XIII, No. 3, pp. 7-28, September 13, 1923.
12. Fall Field Work in Plumas and Yuba Counties, California, in 1922. <Proc. Calif. Acad. Sci., 4th Ser., Vol. XIII, No. 4, pp. 29-41, October 15, 1923.

Van Duzee, Edward P.

1. An Entomological Antique. <Science, New Series, Vol. LVII, p. 269, March 2, 1923.
2. Expedition of the California Academy of Sciences to the Gulf of California in 1921. The Hemiptera. <Proc. Calif. Acad. Sci., 4th Series, Vol. XII, No. 11, pp. 123-200, June 7, 1923.
3. Hemiptera or Sucking Insects of Connecticut. Family Fulgoridæ. <Conn. State Geol. and Nat. Hist. Surv., Bul. No. 34, pp. 24-55, July, 1923.
4. Notes on *Lygæus kalmii* Stål and Allies (Hemiptera). <Canadian Entomologist, Vol. LV, p. 214, September, 1923.
5. A New Subspecies of *Euryophthalmus cinctus* (Hemiptera). <Canadian Entomologist, Vol. LV, p. 270, November, 1923.
6. A Rearrangement of our North American Thyreocorinæ (Hemiptera). <Entomological News, Vol. XXXIV, pp. 302-305, December, 1923.

Hanna, G. Dallas

1. Notes on Some Land Snails of the Sierra Nevada Mountains with Description of a New Species. <By G. Dallas Hanna and Emmet Rixford. Proc. Calif. Acad. Sci., 4th Ser., Vol. 12, No. 4, pp. 43-50, pl. 4, Jan. 2, 1923.
2. Upper Miocene Lacustrine Mollusks from Sonoma County, California. <Proc. Calif. Acad. Sci., 4th Ser., Vol. 12, No. 3, pp. 31-41, pls. 1-3, Jan. 2, 1923.
3. A New Species of Carychium from Vancouver Island, British Columbia. <Proc. Calif. Acad. Sci., Vol. 12, No. 5, pp. 51-53, text fig. 1., Jan. 2, 1923.
4. What is the Future of the Fur Seal? <Fur Trade Review, January, 1923, pp. 357-358, 359. (Three photographs accompanying article were printed in same number but inadvertently placed under article by W. J. Brett.)
5. Random Notes on Alaska Snow Buntings. <Condor, Vol. 25, No. 2, pp. 60-65, 2 photographs, March-April, 1923.

6. (Review of Fauna from the Eocene of Washington, by Charles E. Weaver and Katherine Van Winkle Palmer. <Univ. Wash. Publ. Geol., Vol. 1, No. 3, June, 1922). >The Nautilus, Vol. 36, April, 1923, pp. 141, 142.
7. (Review of the Same Paper). <Journal of Geology, Vol. 31, No. 3, pp. 261-263, April-May, 1923.
8. (A Biological Survey of the Pribilof Islands, Alaska, by Edward A. Preble, W. L. McAtee and others. <North American Fauna No. 46, U. S. Dept. Agriculture, June 20, 1923, pp. 1-257, pls. 1-15). The publication is based largely on collections made by G. Dallas Hanna and contains seven of his photographs as well as large numbers of his field notes.
9. Annual Report of the Department of Invertebrate Paleontology for 1922. <Proc. Calif. Acad. Sci., Vol. 11, 4th Ser., pp. 680-683, August 22, 1923. Bibliography of G. D. H. on pp. 670-672.
10. (Map of the Gulf of California, Showing Route of California Academy of Sciences 1921 Expedition. Based upon Charts Nos. 620, 621, 1006, U. S. Hydrographic Office). <In Expedition of the California Academy of Sciences to the Gulf of California in 1921, General Account by Joseph R. Slevin. <Proc. Calif. Acad. Sci., 4th Ser., Vol. 12, No. 6, opp. p. 72, June 2, 1923.
11. Results of Preliminary Examination of seven samples of Sediments from near Lomitas (Los Angeles, County, California.) <Bull. Southern Calif. Acad. Sci., Vol. 22, pt. 2, p. 64, July, 1923.
12. A Cruise Among Desert Islands (with A. W. Anthony.) <National Geographic Magazine, Vol. 44, No. 1, pp. 71-99, 33 photographs, July, 1923. Syndicated article "Survival of the Unfit," by Henry Smith Williams, San Francisco Examiner, Oct. 22, 1923, etc., based on this. Also an article and photographs in The Illustrated London News, September 27, 1923, was based on this account. Another Article entitled "A Brother of the Strange Beasts before Adam," based on this appeared in the Literary Digest, Vol. 79, No. 8, November 24, 1923, pp. 50-52, 3 photographs.
13. Note on *Lymnæa hemphilliana* (Baker). <Nautilus, Vol. 37, No. 1, p. 23, July, 1923.
14. Pleistocene Freshwater Mollusks from North Central Texas. <Nautilus, Vol. 37, No. 1, p. 25, July, 1923.
15. Some Eocene Foraminifera near Vacaville, California. <Univ. Calif. Publ. Geol., Vol. 14, No. 9, pp. 319-328, pls. 58-59, Oct. 31, 1923.
16. Rare Mammals of the Pribilof Islands, Alaska. <Journal of Mammalogy, Vol. 4, No. 4, pp. 209-215, pl. 23, Nov. 1923.
17. Results of California Academy of Sciences Expedition to the Gulf of California in 1921. Land and Freshwater Mollusca. <Proc. Calif. Acad. Sci., 4th Ser., Vol. 12, No. 26, pp. 483-527, pls. 7-11, Dec. 31, 1923.

Eastwood, Alice

1. The Winter Flowers on Mt. Tamalpais. <Out of Doors, January, 1923.

2. The Origin of Some Locality and Trail Names on Mt. Tamalpais. <Out of Doors, April, 1923.
3. The Fall Flora of Mt. Tamalpais. <Out of Doors, September, 1923.
4. Trees of Mt. Tamalpais. <Trails (the yearly bulletin of the California Alpine Club).
5. The Botany of that part of Menzies' Journal relating to California. <Calif. Historical Society, January, 1924.

Needs of the Museum

The increase in the activities of the Academy and the growth in the work of the various departments in the past year have increased the needs of the Academy until they are now more numerous and greater than ever before. Every department is growing in its collections and material equipment. The floor space, never entirely adequate, in each department, is now more than exhausted. Many collections and specimens valuable for exhibition purposes and others that should always be readily accessible for research have to be stored and are difficult of access. In the department of botany it has been found necessary to place some 20 herbarium cases in the hall. The department of ornithology and mammalogy has found it necessary to store many valuable specimens in a number of places difficult to reach.

We have no space available for exhibits in the departments of entomology, herpetology, paleontology, invertebrate zoology, or botany.

It has long been the desire of Mr. Van Duzee to put on exhibition properly prepared specimens of many of the economically important insects such as the Anopheles and Stegomyia mosquitoes and other carriers of disease, the insects injurious to agricultural and horticultural crops, and those injurious to domestic animals. Such exhibits as he has in mind would be intensely interesting and of great educational value.

The department of paleontology is in a position to provide a number of exhibits that would prove very instructive particularly in economic geology, and the department of herpetology could readily provide a number of exhibits that would rival in scientific and popular interest any of the habitat groups we now have. The same may be said of the other departments, particularly that of botany. It would be a comparatively easy matter to provide many botanical exhibits that would prove of unusual interest and value. The department of ornithology and mammalogy has no suitable place for displaying any of the species of birds or mammals of intermediate size, such as the larger hawks and owls, ravens, crows, waders, foxes, wolverine, marten, mink, and similar species. It has been the desire of the Director to have installed a comprehensive exhibit of the fur-bearing animals of California. This exhibit would include one or more mounted animals and at least two dressed skins (one prime and one unprime) of each species; also descriptive matter regarding the abundance, distribution, habits and commercial value of each species, and the laws for their protection or capture. If we had suitable space for the display of such animals there is little doubt but that the furriers of San Francisco and others would be glad to assist in making such an exhibit possible.

Another exhibit which the curator of ornithology and the Director have long had in mind is one showing by seasons the birds of Golden Gate Park. This would consist of five cases of mounted specimens, the first containing a pair, male and female, of each species of bird known to occur in the Park in the winter, the second case to show the spring migrants, the third the species known to breed in the Park, the fourth the fall migrants, and the fifth case would contain specimens of all the species known to be in the Park *today*. This last would, of course, be a constantly changing assemblage. When a species that was known to be in the Park migrated or disappeared, the specimens of that species would be taken out of the case; when a new arrival in the Park was noted by the observers specimens would be placed in the case. A teacher bringing her class to the Museum could say to them: "The Museum says all the kinds of birds in this case are in the Park today; let us go out and see how many of them we can find".

We have already made a beginning on this exhibit, but collecting the specimens and mounting them requires time and expense. With only one taxidermist progress is very slow. It is hoped that some public-spirited man or woman interested in children may be found who will give the financial assistance needed for the completion of this exhibit which will undoubtedly prove not only of great interest and educational value to the children of the public and private schools but to adults as well. A sum of money that would enable us to employ two expert collectors and taxidermists for two or three years would be sufficient.

Dedication and Formal Opening of the Steinhart Aquarium

At the time of the last Annual Report, the Steinhart Aquarium was under construction. Building operations progressed with reasonable speed and were practically completed by the first of July. The stocking of the tanks and pools with fishes and other aquatic life was begun at once, and the dedication and formal opening of the Aquarium occurred on Saturday afternoon, September 29. At 2 o'clock a private view of the Aquarium was given the Trustees, Council and Members of the Academy and the dedication ceremonies were held at 3 o'clock in the court in front of the Aquarium, more than five thousand people being present. The following program was presented:

PROGRAM

MUSIC - - - - - - - PARK BAND

ADDRESSES:

1. Hon. C. E. Grunsky, *President of the Academy.*
2. Hon. Wm. H. Crocker, *President Board of Trustees.*
3. Mr. Jesse W. Lilienthal, *Executor Estate Ignatz Steinhart.*

MUSIC - - - - - - - PARK BAND

4. Hon. William Sproule, *Park Commissioner.*
5. Hon. James Rolph, *Mayor, San Francisco.*
6. Dr. David Starr Jordan, *Chancellor Emeritus Stanford University.*
7. Dr. Barton Warren Evermann, *Director of the Aquarium.*

MUSIC - ANTHEM, STAR SPANGLED BANNER

Address by William H. Crocker

No ambition is more laudable than the desire to perpetuate one's name. When this is coupled with the broader plan of benefiting the community in which we live, true philanthropy is achieved.

The fulfillment of this ambition has shown itself in many forms and divers foundations in our country. What could be more beautiful, more instructive and beneficial to the public at large than the establishment of the Steinhart Aquarium which we are dedicating here today.

It is a moving picture of the wonders of the Deep. From the remote places of the Pacific and Atlantic oceans, their inhabitants, in all their beauty of color and grace of movement, live before us. Think what it means to us, our children and our children's children.

Ignatz Steinhart spent his active life here in San Francisco. He was one of our successful citizens in business. He was inspired by a sense of duty to accomplish something good, elevating and instructive for the present generation with which he lived, and for future generations to come. His name will remain in perpetuity among us; but even better still, Mr. Steinhart will be classed among the benefactors of mankind who have utilized their resources for educational purposes and the betterment of civilization.

Address by C. E. Grunsky

The Steinhart Aquarium which is today being opened to the public has been made possible by the Ignatz Steinhart bequest of $250,000 to the California Academy of Sciences. The need of an aquarium here has long been felt. How except through the agency of an aquarium shall the general public be made familiar with the life in our streams, lakes, and in the ocean? An aquarium then is educational; but it is more than that. It makes a special appeal because it displays in a convenient way and in attractive environment such a variety of living things. Where else can the movements of fishes and all varieties of aquatic life be so well observed as in the aquarium? Here there is color and form and movement and variety, almost beyond belief; and how easy to learn while being fascinated with the beauty of the scene in the simulated stream or ocean bed?

Some there are at this dedication who will recall the few tanks so long maintained at Woodward's Gardens, on 14th Street near Market many years ago. There was a descent into a cave-like chamber in the walls of which the tanks were placed. Six or eight or more there may have been, I do not remember, but I do recall the great impression which they made upon me when as a boy, before I knew anything about aquariums, I descended the steps and found myself gazing from the dim light of the cave into a brilliantly lighted tank of sea life.

It hardly seems possible that San Francisco should for such a long time after the passing of Woodward's Gardens have been without an aquarium. The more is this to be wondered at when it is recalled how popular an attraction the aquariums at the Panama Pacific Exposition had proved to be. Crowds were attracted by the exhibit in one of the main buildings and crowds, too, by the marvelous colorful display in the Hawaiian building. Many were the regrets later expressed, that no means were at hand to make such collections of aquatic life permanent.

By reason of geographic position on the shore of the Pacific Ocean, with water upon three sides, and with access by water to California's two great rivers, and as the center of a great metropolitan area, San Francisco is the ideal location for an aquarium of the first rank and is now placed in a position to make a satisfactory display of the life in the ocean as well as in the streams which flow to the ocean. The desirability of an aquarium here was fully realized by Mr. Ignatz Steinhart; as it had been, too, by his brother, Mr. Sigmund Steinhart. The latter, the first to pass away, had left in the hands of his surviving brother a comparatively small fund which was to be used for aquarium purposes if opportunity offered. The former some years before his death began to study aquariums and to weigh the possibility of erecting an aquarium in San Francisco. His interest in this matter led to conferences with Dr. Evermann, the Director of the Museum of the California Academy of Sciences, and with others. The outcome of these conferences crystallized in a desire to have San Francisco give assurance that if some one should erect and equip a building for aquarium purposes, the City would provide operating funds to assure its maintenance and operation. This desire found expression in a charter amendment, adopted by the electors of San Francisco in 1916, to the effect that the City pledged itself to accept an aquarium when constructed and to provide funds for the operation thereof.

After the adoption of this Charter Amendment it was confidently expected that Mr. Ignatz Steinhart would at an early date enter upon the construction of an aquarium. But he was called by death before any definite steps had been taken. In his will, however, he made the provision for the project which we see fully realized today. He bequeathed to the California Academy of Sciences $250,000 as already stated, to be used in the construction and equipment of an aquarium in Golden Gate Park. The trust thus imposed was, of course, accepted by the Academy. This acceptance was conditioned upon favorable action by the City in the matter of allowing the aquarium to be erected in Golden Gate Park adjacent to the Academy buildings as stipulated by Mr. Steinhart, and the making of provision by the City for the operating expenses of the aquarium. In 1918 the electors passed the necessary charter amendment authorizing the erection and equipment of the aquarium subject to the provisions and conditions named in the Steinhart bequest. Studies were, thereupon, commenced in order that advantage might be taken of experiences elsewhere. Dr. Evermann accompanied by Engineer T. Ronneberg visited the aquariums of the East and brought back much valuable information. The plans for the building were entrusted to Architect Lewis P. Hobart. The result speaks for itself.

On behalf of the Academy, I desire to express at this time the appreciation, by its officers and members, of the cordial cooperation accorded to the Academy and its representatives by the Park Commission of San Francisco, in connection with the construction work and the parking about the building. We have also to thank the California State Fish and Game Commission and Mr. F. A. Potter, Superintendent of the Aquarium at Honolulu for valuable aid in securing fish and other material, and the Southern Pacific Company, the Los Angeles Steamship Company, the Matson Navigation Company, and many other corporations and individuals for courtesies extended and assistance rendered in making collections and in transporting the collected specimens.

I shall not enter upon a description of the aquarium itself which falls properly to its Director, Dr. Barton W. Evermann, from whom you are to hear presently. It is fitting, however, that we recall the words of the donor whose name the Aquarium bears. I quote from his bequest, as incorporated into the San Francisco Charter amendment which empowered the Board of Supervisors to carry into effect the terms, provisions and conditions of this bequest:

"It being my earnest desire to provide the citizens of San Francisco with an aquarium to be erected in Golden Gate Park of said City, and to be called the 'Steinhart Aquarium'; and provided such an aquarium has not heretofore been constructed or placed in operation by me or any other party or parties; I hereby give, devise and bequeath to the California Academy of Sciences of San Francisco, the sum of ($250,000) two hundred and fifty thousand dollars, for the erection and completion of an aquarium to be located in the Golden Gate Park of said City of San Francisco, and adjacent or adjoining to the new buildings and museum of said Academy of Sciences in said Park." . . . .

"The management, superintendence and operation of said aquarium to be in charge and under the direction of said Academy of Sciences; and I expect that the necessary funds for the maintenance and operation of said aquarium will be furnished by the City of San Francisco for the benefit of the inhabitants thereof or others, who may enjoy said aquarium or derive knowledge and information therefrom."

The Academy, Mr. Mayor, under the terms of this bequest has accepted the trust as set forth, not alone to construct the Aquarium and equip it, but also to operate it for the benefit and enjoyment of all who care to visit it. The Academy desires through you, Mr. Mayor, to advise all who are concerned that the first part of this trust has now been fulfilled. The construction is completed, operation has commenced, and the aquarium, complete and fully equipped, is now ready to be formally opened to the public.

Address by David Starr Jordan

After complimentary remarks concerning the people, the weather and the Aquarium, Dr. Jordan said, in part:

I feel as though I were in a sense a grandfather to the Steinhart Aquarium. Some twenty years ago, Mr. Ignatz

Steinhart came to me to talk over the possibilities of such an enterprise, its cost, its management and the place to put it. All his plans have been faithfully carried out, and in the best possible way. I feel like a grandfather again, because the director of the Aquarium and its superintendent were both students of mine. I taught them to know fish.

It is forty-five years now since Barton Warren Evermann first joined my little student tramping party from Somerset, Kentucky, by way of Cumberland Falls, to the French Broad River, the Great Smoky Mountains, and by way of Tallulah into the heart of Georgia. All along the way we interviewed the flowers, the ferns and the fishes, and the impression has never faded away. We have been working together on fishes ever since those days.

Alvin Seale came to us at Stanford at the end of the last century, when fishing the world over was good. He has been my partner in various investigations and has made many of his own. One notable act was his transfer from Galveston to Hawaii of the mosquito-devouring top-minnow, *Gambusia,* now successfully introduced also in Formosa and the Philippines.

One feature of the Steinhart Aquarium we must not overlook, its value to scientific research. The people of this city, the children especially, will look with wonder and profit on the hundreds of varied forms of fishes; the men of science will make use of them for extending our knowledge of marine life.

The most famous aquarium in the world is the one at Naples. Not for its variety of fishes, for in this regard the Mediterranean cannot compare with Hawaii and the South Seas. It is, however, the center to which hundreds of naturalists all over the world have been drawn for most important studies. This has been because the Aquarium made provision for such study. The upper floor was turned over to Dr. Anton Dohrn, and the great universities of the world were glad and proud to rent "tables" for students, with the equipment of books and instruments of precision which go with each table.

In the Steinhart Aquarium the same provision is made except that the research rooms are in the basement. But they are equally well provided and the day will come when students of sea-life will cross oceans and continents to work in these hospitable halls.

Address by Barton Warren Evermann

On a sweet day in June, 45 years ago, a young college professor of zoology and a young student of his sat together on the bank of the Cumberland River just below the beautiful Cumberland Falls. The sun shone on the spray, and a rainbow arched the chasm which the river had cut. Beautiful climbing ferns, sensitive briars, orchids and magnolias covered the almost vertical walls that hemmed the river in.

The professor and his pupil saw all these, but they, for the moment, were chiefly interested in a small fish which the student had caught. The professor was giving his student his first lesson in systematic ichthyology. By means of a "Manual of Vertebrates," which the professor had recently written, and which contained descriptions of all the mammals, birds, reptiles and fishes then known from the eastern United States, the little fish was soon identified as the common stone-roller or dough-belly, whose scientific name is *Campostoma anomalum;* "anomalum," because its very long intestine is wound around its air-bladder, like the wire or string around a leaky garden hose to keep it from bursting—a structure quite "anomalous" among fishes.

In the weeks that followed, while tramping southward through Kentucky, Tennessee, North Carolina and Georgia, across the Cumberland Mountains and the Great Smokies, the professor and his student had frequent opportunity to take a look at the fishes in the streams they crossed. They sat on the banks of many of them—as the French Broad, the Swannanoa, the Tallulah and the Tugaloo, and studied and identified such fishes as they had caught. And thus the student's interest in fishes grew day by day.

Since those glorious days, the professor and his student have fished together in many waters, both fresh and salt, and in many lands. They have caught fish, usually while fishing together, in every state and territory in the Union, and in some foreign countries. They, sometimes alone, sometimes with others helping them, have waded a hundred miles or more, in rivers, lakes and along ocean shores, through which they dragged nets with which to catch the fish.

Sometimes the "water was fine" and felt very pleasant; sometimes it was very cold and felt very different; but it was always *wet!* One occasion is recalled when they fished in a certain icy-cold river in Colorado whose name is Rio de las Animas Perdidas, or the River of the Lost Souls.

After a hasty inspection the professor decided that the best place to draw the seine was on a gently sloping gravel bar on the opposite side of the river, and said, "We will wade across and try it over there." There was a bridge only a few yards above us, and the three other members of the party said, "Why not cross on the bridge?" But, despite their protest, the professor gathered up one end of the seine, Davis the center, Fesler the other end, the other the collecting bucket, and we all started across, stepping from stone to stone where the water was deep. Soon the professor slipped and went in over his head! Scrambling back to shore as best he could, he remarked, between shivers, "I always thought that the place where lost souls went was a good deal hotter than this place is." We all then went up and crossed on the bridge.

On another occasion we went from Salt Lake City down into the Land of Juab where we fished the Sevier River. The professor had inadvertently left his seining clothes at the hotel, so he said, "You boys can do the seining today; I'll stay on the bank and boss the job and examine the catch as you bring it ashore." Fishes of several very interesting kinds proved abundant, and the professor became greatly excited. He disappeared for a moment in the bushes, but soon reappeared garbed only in a hat and a long linen duster, with the remark, "This is great! I want to share the fun with you boys."

We got many kinds of fishes in that interesting stream, and, as we drove back to Juab in the cool of the evening, we commemorated the event by fabricating and singing a "round" (a parody on "The Animal Fair"), which ran something like this:

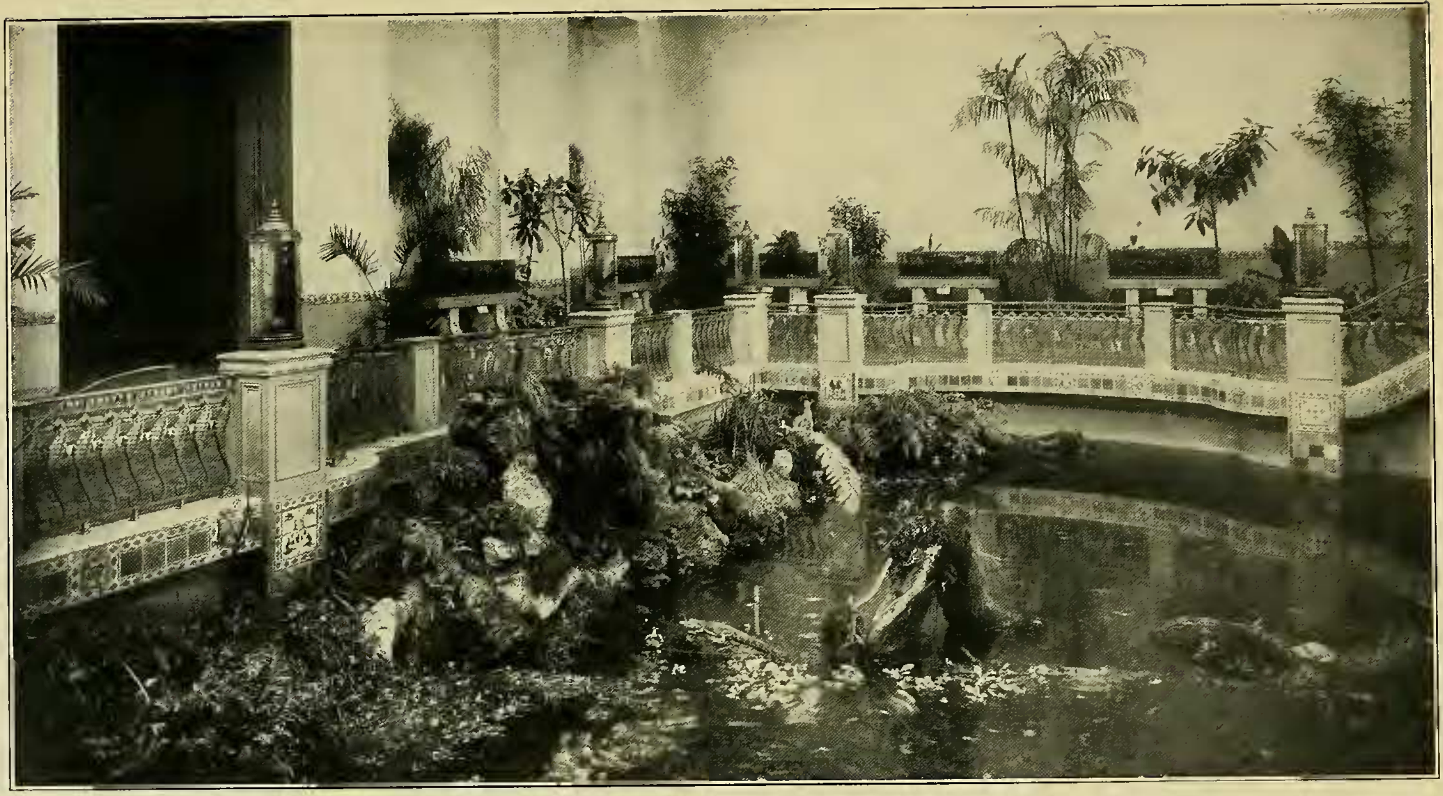
We went to the fisheries fair,
The suckers and chubs were there;
And old Cottus blob with a red corn cob
Was combing the bullfrog's hair.
Pantosteus he got drunk
And fell on Agosia's trunk,
Rhinichthys sneezed
And fell on his knees,
And that was the end
Of the Blob,
        blob,
          blob.

With these many years of intimate association with Dr. David Starr Jordan in the study of fishes, it was quite natural that I, his student, should develop an interest in live fishes as well as fishes preserved in alcohol. So, in 1916, when some one told me that Mr. Ignatz Steinhart, a public-spirited citizen of San Francisco, was also interested in fishes and aquariums, I determined to meet him.

Through a mutual friend, the late Rudolph J. Taussig, I first met Mr. Steinhart on March 8, 1916. Mr. Steinhart spoke freely of his long interest in public aquariums and the interest of his brother Sigmund Steinhart; how he had dreamed for years of establishing a public aquarium in San Francisco; how he had visited all the aquariums in America and Europe; how he had employed experts to study aquarium problems and assemble data for him; how he had made propositions to various individuals and organizations to join him in the undertaking; how he had met with one difficulty and rebuff after another, until finally he had become so discouraged that he abandoned the idea entirely and decided to devote his money to an entirely different purpose. His decision seemed to be final; and I left Mr. Steinhart that evening with the feeling that there was no hope that he would ever put any money into an aquarium.

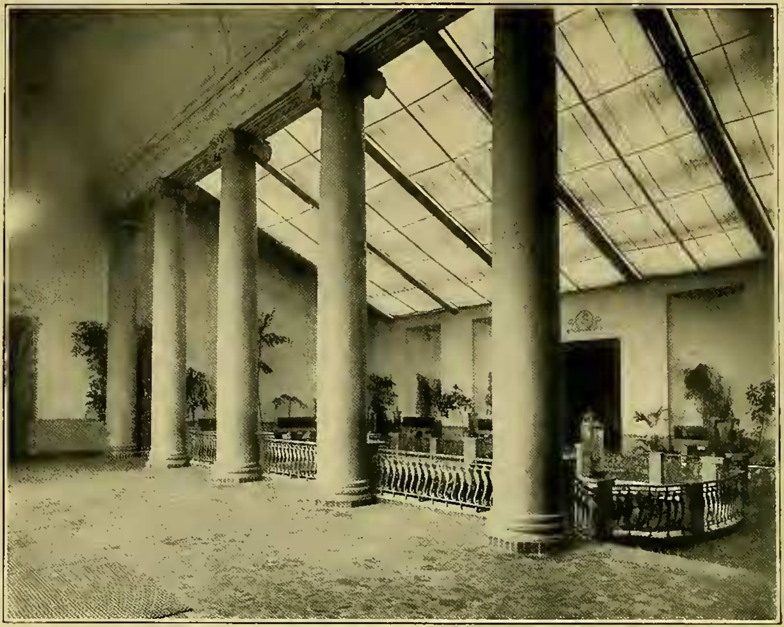
Two days later Mr. Steinhart phoned me to come and take luncheon with him at the California Market. I did so and he at once said that he had been thinking about the aquarium

IGNATZ STEINHART (1840-1917)
FOUNDER OF THE STEINHART AQUARIUM
OF THE
CALIFORNIA ACADEMY OF SCIENCES

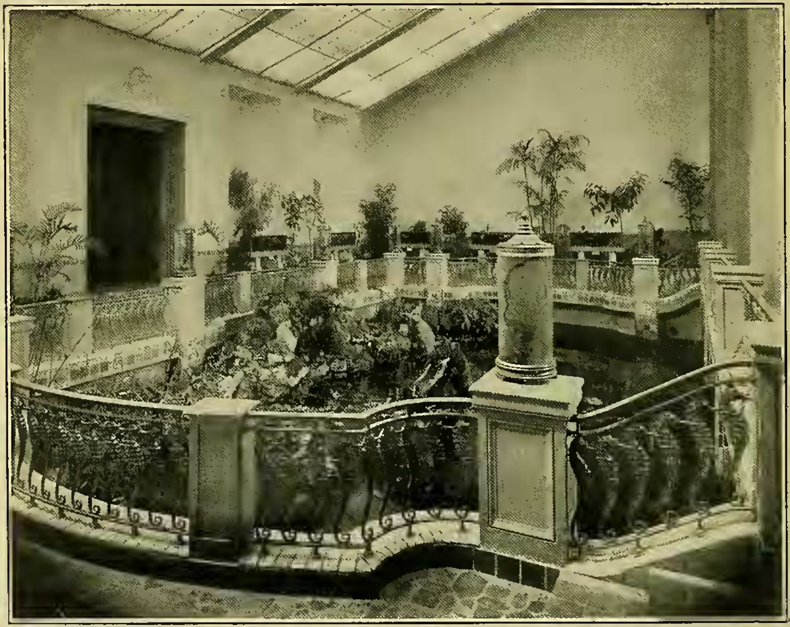


THE SWAMP ROOM OF THE STEINHART AQUARIUM

It is approximately 58 feet by 60 feet. In the center of the room is a swamp 24 by 40 feet, in which are shown many species of aquatic animals, including alligators, frogs, turtles, salamanders and water snakes; also aquatic plants. Around the swamp are two series of balanced aquariums which are very attractive and interest the public greatly.



A Portion of the Swamp Room in the Steinhart Aquarium



Another View of the Swamp in the Steinhart Aquarium
Note the artistic railing around the swamp

his sudden death May 15, 1917, and the announcement that he had left in his will $250,000 to the California Academy of Sciences for an aquarium building and its equipment.

The executors paid the $250,000 to the Academy December 17, 1919. Immediately thereafter the architect's engineer, Mr. Trygve Ronneberg, and I went east and visited all the aquariums in America, and in the summer following I visited that at Honolulu. The knowledge gained from a study of these aquariums was of great value in our planning of the Steinhart Aquarium. When the $250,000 was paid to the Academy (December 17, 1919) building conditions were not good, so the trustees loaned the money at a good rate of interest payable monthly. Whenever a monthly interest payment was received government certificates were bought with it. As a result something near $55,000 in interest has now been received, and we have put $305,000 instead of $250,000 into the building and its equipment. Building operations began April 1, 1922, and you now see the building practically completed.

In certain features the Steinhart Aquarium is the most complete and satisfactory of any in this country.

We have four kinds of water—fresh water of the local temperature for local freshwater fishes and similar species; fresh water cooled to meet the needs of trout, salmon and other cold water species; salt water of the local temperature for local and other salt-water species suited to that temperature; and salt water warmed to meet the needs of fishes from the Hawaiian Islands and elsewhere in the tropics.

There will be upwards of 110 tanks, large and small, and large outdoor pools. One unique feature is a large indoor tropical swamp stocked with various species of turtles, frogs, water snakes, salamanders, alligators and aquatic plants. Around the tropical swamp are two series of balanced aquariums which are very beautiful and interesting.

Another unique feature is a fish-hatching equipment where an expert detailed by the State Fish and Game Commission will demonstrate the methods of fish culture. Still another unique feature is a well-equipped biological laboratory in which college professors, high school teachers, students and others can carry on investigations of any problems of aquatic life that can be studied from aquarium material. It is expected that this laboratory will prove of real value to the public schools.

The aquarium employs what is known as the closed circulation system: the water being stored in large reservoirs from which it is kept circulating through the aquariums, the same water being used over and over again for years.

The object has been to carry out the wishes of Mr. Steinhart by providing an aquarium that will be of the broadest general interest and that will be of the highest educational value to the city and the state. To what extent this aim has been realized you can judge when you enter the aquarium.

The staff has now been selected and the aquarium is in operation. We are fortunate in having secured as superintendent in immediate charge of the aquarium Mr. Alvin Seale, who built the Manila Aquarium, which he operated for several years. As principal expert assistants to Superintendent Seale we have secured Mr. H. Walton Clark, for many years connected with the United States Bureau of Fisheries, and Mr. Wallace Adams, as assistant superintendent.

That this occasion is a very happy one for me may well be believed. It marks the realization of an ambition that has possessed my soul for many years. And I can repeat what I have often heard Dr. Jordan repeat from good old Izaak Walton: "It is good luck to any man to be on the good side of the man who knows fish." And I may add, it is good fortune for any man to have "walked with Jordan," and doubly blest is he who has *fished* with Jordan.

And as we are assembled here today, my thoughts go back to that delicious day at Cumberland Falls 45 years ago. The wax was soft then and the impress grew indelible. I see again the whole scene—the great silvery waterfall, the broad sheets of white and green water pouring over the precipice to lose themselves in the swish and swirl of the great cauldron at the base; the spray filling the gorge, the spray-washed and diamond-studded ferns and moss and shrubs on the walls, the gorgeous masses of flowers, the mist rising above the gorge and gleaming in the sunlight, and the rainbow arching all.

The professor and his pupil sit together here again today. In imagination they have reached the rainbow's end, and they have found, not the mythical pot of gold, but something of vastly greater interest and value to you and me and all the people of California—this beautiful aquarium, this splendid enduring memorial to Ignatz Steinhart, erected, in the felicitous words of the donor, "for the benefit of the inhabitants of San Francisco and others who may enjoy said aquarium and derive knowledge and information therefrom."

Would that Mr. Steinhart could be with us here today and enjoy with you and me and all of us, and that all of us might enjoy with him, the fruition of his dream.

Numerous letters and telegrams that had been received from institutions and individuals in various parts of the United States and elsewhere conveying felicitations and congratulations were read, a few of which may be mentioned:

Luther Burbank; Riverside Public Library; Duncan Burnet, librarian, University of Ga.; Jarl Lindfari, vice-consul of the Republic of Finland; Iowa Geological Survey; U. S. Naval Observatory; William McInnes, Director Victoria Memorial Museum; American Philosophical Society; Professor Henry Fairfield Osborn, President, Am. Mus. Nat. Hist.; President, Univ. of Mich.; Dr. J. N. Rose, U. S. N. M.; Dr. Charles D. Walcott, Secty. Smith. Inst.; Dr. E. J. Allen, Director Marine Biological Assn. of the United Kingdom, Plymouth, England; President of the Tokyo Imperial University; C. Anderson, Director, Australian Museum, Sydney; Académie des Sciences de Russie; Botanischer Verein de Provinz Brandenburg; Dr. Charles H. Townsend, Director, New York Aquarium.

Aquarium Personnel

The personnel of the Aquarium is as follows:

Dr. Barton Warren Evermann, Director, part time; W. W. Sargeant, Secretary, part time; Susie M. Peers, Secretary to the Director, part time; Mrs. Constance W. Campbell, stenographer and typewriter, part time; Alvin Seale, Superintendent; Wallace Adams, Assistant Superintendent; H. Walton Clark, Aquarist and Chief Collector; William J. Martin, Assistant Collector; Clynt S. Martin, Chief Engineer; Frank Terlin, Assistant Engineer; John R. Moorefield, Assistant Engineer; H. F. Stevens, Relief Engineer; Charles Brandt, Chief Attendant; W. S. Walker, Assistant Attendant; Clyde E. Guidry, Assistant Attendant; Peter J. Burke, Janitor; Patrick O'Neill, Assistant Janitor; S. J. Shenefield, Carpenter; and Lucie Hicks, Door Attendant.

COMMITTEE ON CONSERVATION OF WILD LIFE

This is one of the Academy's most active committees. Its membership consists of M. Hall McAllister, chairman; Barton Warren Evermann, W. B. Lewis, John R. White, and S. Leonard Abbott.

Among the most important achievements of the committee may be mentioned the following: The Academy's Conservation Committee was appointed to act as the California or Pacific Coast representative of the Permanent Wild Life Protection Fund of New York, Dr. W. T. Hornaday, Trustee. Through the Academy's Special Observers, the Committee has distributed considerable conservation literature and given much publicity to conservation matters.

The Committee also makes and publishes an Annual Census of certain large mammals in California.

The census for 1923 was as follows: Valley Elk, 468 animals; Mountain Sheep, 212 animals; Antelope, 1007 animals.

Valley Elk—An occasional visit is made to the herd in Kern County, where the animals live an undisturbed life among the willows and tule lands bordering Buena Vista Lake. The Academy caught up and distributed in 1914 and 1915 about 166 Valley Elk from this herd. The herds giving most promise are those in the paddock in the Yosemite Valley, which now number eleven head, and, that on the Monterey peninsula, which number about thirty.

The animals were placed in the following reservations or parks: Balboa Park, San Diego; J. M. Danziger property, Santa Monica Mountains, Los Angeles County; E. L. Doheny property, Santa Monica Mountains, Los Angeles County; City Park, Riverside; Modesto City Park, Modesto; California Redwood Park Association, Big Basin; Seventeen-mile Drive, Monterey; Santa Cruz City Park; Alum Rock Park, San Jose; Mooney Park, Visalia; Fresno City Park; A. V. Lisenby Park, Friant; P. H. Loinaz Park, Fresno; John Zapp Park, Fresno; Vancouver Pinnacles; J. F. Dunne Park, San Felipe; Del Paso Park, Sacramento; City Park, Petaluma; Eden Valley, Mendocino County; and the Yosemite Valley.

Mountain Sheep—These animals live in the inaccessible desert mountains of southern California. The Committee has had posted a number of metal signs of WARNING and REWARD on or near their habitat.

One law-breaker was arrested and fined $100 for killing two sheep in the Southern Sierra and our first $50-reward was paid to the informer.

Antelope—The Mount Dome Herd in Siskiyou County, northern California, which numbers over 100 animals, has been our special care. They are now ranging in their usual habitat in the Modoc Lava Beds. The Committee has also posted all the Antelope country with metal warning signs and endeavors by reasonable publicity to give these animals all protection possible. It might be noted that the U. S. Biological Survey joined with a private subscription of $1000—(made by a member of the Academy) and a fund was raised which was used to capture in northwestern Nevada some 40 antelope fawns. This herd is now being held in Reno, Nevada, and will shortly be transferred to their permanent home on the Tonto Plateau in the Grand Cañon of the Colorado in Arizona.

Subscriptions—The following amounts have been received during the year for use of the Conservation Committee:

Permanent Wild Life Protection Fund..	$300
American Bison Society................	100

Special Wild Life Observers

California Academy of Sciences, San Francisco

1. Albright, Horace M.......Superintendent, Yellowstone National Park, Wyoming.
2. Anthony, Alfred W.......237 Spruce Street, San Diego, California.
3. Courtright, George W.....Malin, Klamath County, Oregon.
4. Cuthbert, Edmund R.....David, Chiriqui, Panama.
5. Durbin, William G........Susanville, Lassen County, California.
6. Eakin, J. Ross...........Superintendent, Grand Canyon National Park, Grand Canyon, Arizona.
7. Hedderly, Edwin A.......Pacific Finance Building, Los Angeles, California.
8. Hutchings, H. W.. ......Acting Superintendent, Glacier National Park, Belton, Montana.
9. Jaeger, Edmund C........Director, Riverside Junior College, Riverside, California.
10. Karstens, Henry P........Superintendent, Mount McKinley National Park, McKinley Park, Alaska.

11. Lee, William J............Susanville, Lassen County, California.
12. Lewis, Washington B......Superintendent, Yosemite National Park, Yosemite, California.
13. Miller, John O............Tennant, Siskiyou County, California.
14. Ober, Edwin H...........Big Pine, Inyo County, California.
15. Russell, Carl P...........Park Naturalist, Yosemite, California.
16. Sanson, N. B.............Banff Museum, Banff, Alberta, Canada.
17. Shay, Arthur T...........Upland, San Bernardino County, California.
18. Thomson, Charles Goff....Superintendent, Crater Lake National Park, Medford, Oregon.
19. Tomlinson, Owen A.......Superintendent, Rainier National Park, Ashford, Washington
20. White, John R...........Superintendent, Sequoia National Park, Sequoia, Tulare County, California.

DEPARTMENT REPORTS

DEPARTMENT OF BOTANY

Following is a statement of the approximate number of species and specimens in cases in the Herbarium at this date.

	Species	Specimens
General collection in 68 cases	42,288	122,852
Mosses	1,511	3,826
Hepatics	180	562
Lichens	849	1,541
Algæ (Prager Herbarium)	614	614
Fungi " "	3,656	3,656
Ferns " "	985	985
Cereals " " (Hohenacker collection)		172
	50,083	134,208

The number of specimens in the Prager Herbarium is still unknown as the catalog which came with the herbarium, lists species only and many species are represented by specimens from different regions. The algæ, ferns and fungi are in the original packages and only the catalog has been used in numbering species and specimens. When we are able to stamp and number every specimen sheet in the herbarium an exact report can be obtained; probably the number of specimens is at least 150,000. The boxes of microscope slides are also unlisted. These specimens consist of diatoms, mosses and fungi beautifully mounted.

The most important accessions during the year have been as follows: 407 specimens of flowering plants donated by Ellsworth Bethel of the Colorado State Museum, collected chiefly in Shasta County, California, while engaged in the Blister Rust Investigation; 1178 specimens from southern China and Siam collected under the auspices of the Canton Christian College and obtained from Walter T. Swingle in exchange; 418 specimens, chiefly exotics, donated by Eric Walther and collected by him in gardens and parks in the San Francisco Bay Region, Santa Barbara and Monterey; 850 specimens from the National Herbarium in continuation of exchange; 229 specimens from southern California, sent by Philip A. Munz, from the Baker Herbarium, Pomona College, Claremont, California, in exchange; 351 specimens of trees and shrubs from the Arnold Arboretum in continuation of exchange; 189 specimens donated by Mrs. Charles W. McKelwey collected in Glacier National Park and the Atlantic States.

More than 50 individuals have contributed specimens chiefly for identification. Their names will appear on the list of donors. The Curator collected as follows, not including mosses which are listed separately: Angels Camp, Calaveras Co., 106; Shasta Springs, Siskiyou Co., 121; Mt. St. Helena, 45; Mt. Hamilton and Mt. Diablo, 24; Yosemite Valley, 53; Del Norte Co., 400; Humboldt Co., 41; Point Reyes, 56; Lower California, 96; Los Angeles, 14; Santa Barbara (exotics), 44; a total of approximately 894 specimens not including many duplicates.

The collection of mosses has been increased by almost 500 specimens. Miss Anna Head collected in the Feather River Region, Mrs. Enid Michaels in the Yosemite Region, Mrs. E. C. Sutliffe and Mrs. Marian L. Campbell in Marin Co., Mrs. S. E. Hirstel in Yosemite Valley, and Miss Stella Handelin at Eureka, Humboldt Co. Mr. R. E. Bradshaw of Palo Alto has donated 18 fine specimens named by authorities. The Curator has collected about 400 specimens of mosses wherever collections of other plants have been made and especially in Marin Co. on Mt. Tamalpais and in Mill Valley. These collections are mostly undetermined. Some are now in the hands of specialists; others will be sent later and none is as yet incorporated in the general collection.

Besides collecting mosses, Mrs. E. C. Sutliffe has taken charge of our collection of Hepatics, sending the fresh collections to Professor Alexander W. Evans at Yale University for determination. There have been added two genera and three species to the known flora of California. She has donated 30 specimens received in exchange from Miss C. C. Haynes, Highlands, New York.

The collection made by Ivan M. Johnston in Lower California on the expedition of the California Academy of Sciences in 1921 has been mounted and incorporated into the herbarium. There are 1418 specimens of flowering plants and ferns including 46 types of new species and subspecies. The collection of Algæ is a notable one, containing 122 specimens and including 55 types. This collection will form the basis of a paper on the Algæ of Lower California by Dr. W. A. Setchell and Dr. N. L. Gardner, now in press. [1] They have added to the collection two types collected by Walter E. Bryant on an Academy Expedition many years ago and 5 types collected by T. S. Brandegee. There are also 12 cotypes from the collection of Mrs. Marchant.

The duplicates of the flowering plants and ferns of the Johnston collection have been labelled and arranged in six or seven sets, each set having also been listed. These sets will be sent to the most important herbariums for exchange when Johnston's paper has been published and distributed. There are 3472 duplicates.

The herbarium donated by Professor George R. Kleeberger has also been incorporated into the herbarium. Besides the valuable collection of mosses and hepatics there are 3293 mounted and 2256 unmounted specimens. It includes a valuable numbered set of plants collected by Kellogg and Harford in 1868-69, containing duplicates of types and part of the collections on which the Botany of the California Geological Survey was founded; also a collection from the herbarium of D. C. Eaton, specimens collected in Utah on the Clarence King Exploration of the 40th Parallel. The donor's own collections in Connecticut, Wisconsin and California add to the great value of this herbarium.

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[1] This report has been published as Proc. Calif. Acad. Sci., Vol. XII, No. 29, pp. 695-949, pls. 12-88, map.

The exhibition of flowers, both native and exotic, which is maintained in the vestibule of the Museum is one of the most popular features of the Museum and has great educational value. Each specimen is labelled with the scientific and common name and, in the case of the native flowers, the locality, while the native country is given with the exotics. More than a thousand species are on exhibition during the year, as there is continual change. Some good friends of the Academy have been of great assistance in sending or bringing specimens. Mr. W. P. Steinbeck of Stockton has sent beautiful flowers from the Sierra Nevada almost every week during the flowering season, Mrs. E. C. Sutliffe and Mrs. S. E. Hirstel have brought in lovely specimens from Marin Co.; while Eric Walther has contributed almost all the exotics, a most important part of the exhibition. Mrs. Johanna Wilkens has been as usual most efficient in keeping the exhibition clean and in good order.

My assistant, Mrs. George H. Phelps, has done excellent work in mounting the numerous accessions and distributing them into the herbarium. The evening class of the gardeners and the Botanical Club have had regular meetings and excursions. Popular talks on botanical subjects and conservation have been given to various clubs and the influence of the Academy thereby extended. The list of trees, shrubs, and hardy perennials in Golden Gate Park has been completed and will soon be published in the Report of the Park Commissioners. This list has been prepared by Eric Walther under the supervision of John McLaren, Superintendent of the Park. The determinations have been made by the Curator. There are 125 families, 569 genera, 1679 species and 788 varieties, making a total of 2167 labelled specimens. This work has taken a great deal of time and its success is due to the untiring efforts of Eric Walther.

A catalog of the exotics cultivated out-of-doors in California would be a most useful and illuminating publication and could be made from the fine collection now in our herbarium.

My greatest need is more help as my time is taken up altogether with curatorial work that cannot be done except by a botanist.

ALICE EASTWOOD, *Curator.*

DEPARTMENT OF ENTOMOLOGY

Work in the Department of Entomology in 1923 was characterized more by the development of the material on hand than by extensive additions. Circumstances made it inadvisable for the curator to do the usual amount of field work but more was accomplished in the mounting of accumulated material and the determination and arrangement of the unworked species. Dr. F. E. Blaisdell continued his work on the Academy collection of Coleoptera, and a number of difficult and interesting families of beetles have been gotten into shape and await the purchase of the necessary cases for their arrangement. Dr. F. R. Cole completed a second installment of his report on the Diptera of the Gulf Expedition, covering most of the families except the Bombyllidæ reported on in 1922, and in October, at considerable personal sacrifice he spent three weeks at the Academy working over the dipterous insects accumulated during the past two years, thus making possible the rearrangement of our entire collection of the two-winged flies. During the early part of the year Prof. T. D. A. Cockerell completed work on four families of the bees of the Gulf Expedition, and after his return from Siberia, he completed six more families. These studies on the bees show a large percentage of new forms among the Mexican material (64 out of 106 being new) and greatly enhance the value of this portion of the Academy collection of insects. Mr. C. D. Duncan completed the study of the Academy material in the Vespidæ, including the hornets and yellow-jackets, and Mr. C. L. Fox studied the digger wasps of the Family Bembecidæ. Mr. Morgan Hebard finished his work on the orthoptera of the Gulf Expedition. Mr. Ralph Chamberlin that on the spiders and millepeds, and Mr. Joseph Chamberlin that on the pseudoscorpions. Finally, the curator was able to devote some time to systematic work on the North American Hemiptera, completing work on the Chermidæ and nearly completing that on the Cicadellidæ. Dr. E. C. Van Dyke, who each year adds largely to the collections of the Academy, spent the whole year in China where he again made extensive collections of insects for the Academy of Sciences. This material did not reach us until too late for inclusion in this report but will be fully covered in the report for next year.

Accessions to the Department of Entomology in 1923 number 13,045 specimens slightly fewer than in the preceding year.

Field work by the curator included a week spent at Potholes, California, and Yuma, Arizona, in April, a week in Mill Creek Cañon, San Bernardino Mountains, in September, as the guest of Dr. F. R. Cole and his parents, and about four days' work at Ensenada, Lower California, and Alpine in San Diego County, in September, one day at Mt. Diablo in May and one day at Pittsburg, California in November, as the guest of Mr. and Mrs. J. O. Martin. The total number of insects added by this field work is 4630. Other important accessions are: From F. F. Crevecoeur, 1541 beetles from Kansas, in part purchased; Mr. J. A. Kusche, 1322 specimens, mostly exotics, purchased; Mr. Clifford Dodds, 1241 insects from Mexico, in addition to those recorded last year; Mr. J. O. Martin, 719 specimens, including many rare forms and the types of seven species of beetles described by him; Mr. C. L. Fox, 619 insects, largely from the Sequoia National Forest; Mr. Louis Slevin, 509 specimens from Monterey Co., California; Dr. F. E. Blaisdell, 362 insects, including types and a valuable series of western cicadas; Mr. Herman Peters, 360 specimens from Queensland, recorded but not enumerated in our report for 1916; Mr. E. R. Leach, 197 insects; Mrs. H. E. Ricksecker, 183 insects from California; Miss Louise Knobel, 182 insects from Arkansas, purchased; Mr. B. C. Marshall, 148 beetles from Arkansas; Mr. J. R. Slevin, 136 insects taken in field work in Lower California; Mr. A. Christoffersen, 125 insects from the Pribilof Islands; Mr. F. R. Jones, 44 insects; Mrs. S. A. Anderson, 21 insects from Columbia, some of them large and interesting forms; Dr. C. H. Kennedy, 228 dragon-flies, mostly from California, and all correctly determined. Other smaller donations were received from various friends of the Academy and from Mr. George P. McNear, a complete set of the 10 volumes of L'Echange, a rare entomological journal published in Paris.

During a part of the year the curator was fortunate in having the help of Mr. J. O. Martin. This made possible the mounting and labelling of all material secured during the year and of much that had accumulated during previous years.

One gratifying feature of the Academy activities directly related to the Department of Entomology was the publication of 17 papers on the entomological results of the 1921 Expedition to the Gulf of California. These papers already fill 388 pages of the Academy Proceedings and enumerate 710 species and subspecies, of which 284 are new to science. Two other completed papers now await publication and there are several groups of insects still to be studied including the balance of the Coleoptera, Hymenoptera and Lepidoptera, the Neuropteroid insects and a few Diptera.

Another interesting feature of the work of this department is the growth of the collection of type specimens of insects. These now number 1383 holotypes and allotypes and include the holotypes of probably 800 or more species of insects. Unfortunately the types of most of our western insects have been taken by commercial collectors and sold to eastern museums where they are quite inaccessible to western students. This condition is quite paralleled by that formerly existing in the east where so large a proportion of the species were sent to Eruope in earlier years and now the student of eastern insects must cross the Atlantic to examine the types of many of his species, an undertaking comparable to the trip to the east required of our western students. In both cases it is a serious handicap to entomological work. The feeling formerly existing that most serious entomological work is done in the east and therefore the types should be preserved there, no longer holds good. The California Academy of Sciences is doing its part in supplying storage facilities, as safe as they can be made, and in encouraging the placing of the types of western insects in western museums where they will be of most service to science. It is to be hoped that in time a broader view of the field on American entomology will induce eastern workers to place the types of western species that may come into their hands in western museums where they will be accessible to workers in that fauna.

EDWARD P. VAN DUZEE, *Curator*

DEPARTMENT OF EXHIBITS

As all of the space for large habitat groups is occupied, the work in the exhibition halls is necessarily confined to the installation, in the panels between the large ones, of more of the smaller groups. Four of the latter have been installed during the year by the chief taxidermist, Mr. Frank Tose, as follows: Ring-tailed Cat (*Bassariscus astutus raptor*); Allied Kangaroo Rat (*Dipodomys merriami simiolus*), Burrowing Owl (*Speotyto cunicularia hypogæa*), and Sierra Golden-mantled Ground Squirrel (*Callospermophilus chrysodeirus chrysodeirus*). Two panels were arranged to display seal skins in successive stages of preparation.

In addition to this work three additional portable groups for school use have been arranged, and construction begun upon others. There is constant demand for these groups, and more will be constructed as opportunity presents.

Mr. Tose has also done some exchange work with other departments, such as: the installation of the group of Northern Elephant Seal (*Macrorhinus angustirostris*) in the Steinhart Aquarium, the making of casts of a huge turtle for the Department of Herpetology, and the tanning of a number of large mammal skins, many of which really belonged in the Department of Mammalogy.

Material for this department has been received as follows: *By exploration*, 41 specimens. *By gift:* John McLaren, 1; W. M. Phillips, 2; J. S. Scupham, 2. *By purchase:* 3 specimens.

Joseph Mailliard, *Curator.*

Department of Herpetology

At the beginning of the year 1923 the Academy's collection of reptiles and amphibians numbered 51,006 specimens. There have been added during the year 2132 specimens, so that the collection has grown to 53,138 specimens.

The number of specimens added during each of the past six years has been about as follows: In 1918, 1724 specimens; in 1919, 2666; in 1920, 1466; in 1921, 5002; in 1922, 4934; and in 1923, 2132 specimens.

Gifts of specimens during the year have been received as follows: From Frank Arundell, 4 specimens; H. L. Mason, 1; Prof. H. M. Hall, 14; Steinhart Aquarium, 44; J. L. Hitchcock, 1; L. M. Klauber, 213; S. F. International Fish Co., 1; H. P. Losing, 1; Mrs. E. C. Sutliffe, 1; Don P. Johnston, 1; Frank Stevens, 3; Dr. L. A. Draper, 1; and Dr. E. C. Van Dyke, 32.

Specimens have been secured from 12 counties of California, as follows: Imperial, 24 specimens; Lake, 1; Los Angeles, 4; Marin, 1; Orange, 29; Riverside, 86; San Diego, 448; San Luis Obispo, 11; Santa Barbara, 12; Sonoma, 1; Tuolumne, 15; and Ventura, 38.

Specimens from other localities are: Alabama, 1 specimen; Arizona, 21; Florida, 5; Indiana, 4; Iowa, 1; Michigan, 1; New York, 23; North Carolina, 6; Texas, 4; Utah, 1; Washington, 207; Africa, 2; Asiatic Russia, 2; Australia, 101; Bonaire Island, 3; Brazil, 2; China, 45; India, 1; Japan, 4; Mexico, 856; Pacific Ocean, coast of Calif., 1; Philippine Islands, 170; South America, 1; West Indies, 3.

Descriptions of five new species and subspecies of snakes from Mexico and Asia were published in the year.

Through the courtesy of Professors Alfonso L. Herrera and José Maria Gallegos, the Curator and Assistant Curator, in the early summer were the guests of the Mexican Government on an expedition to the San Pedro Martir Mountains in northern Lower California. During the period of preparation for this expedition to the mountains collections were made in San Diego, Imperial, Orange, Riverside, and Los Angeles counties, California, and on the Todos Santos Islands in Lower California. This field work resulted in 1327 specimens of reptiles and amphibians, of which four snakes were new to science.

John Van Denburgh, *Curator.*

Department of Invertebrate Paleontology

At the close of 1922, Mr. Frank M. Anderson and the curator were busily engaged in the task of preparing a report on the Eocene invertebrates found at the type locality of the Tejon Group in Kern County, California. The work was finished early in the year and the paper awaits an opportunity for publication. It is one of the most comprehensive papers thus far prepared in the department.

The completion of this task cleared the way for Mr. Anderson to proceed with his studies of the paleontology of Colombia, South America, and reports on the large collections which were donated to the Academy were in course of preparation at the end of the year.

When the work on the Tejon Eocene was finished the curator began to devote such time as he was free from routine duties to the study of the fossil micro-organisms of the western sediments. In May an arrangement was made with the Pacific Oil Company and its associates whereby half-time was devoted to the microscopical study of sediments from its oil wells and the application of the information thus obtained to economic problems. The remainder of his time was devoted to purely Academy duty or research. The arrangement proved very satisfactory to all concerned. A full time assistant was provided by the company. Mr. Roy T. Hazard filled the position until he returned to the University of California in August. He was followed by Mr. H. L. Driver who continued to the end of the year. All work was done in the laboratories of the Academy. In a few months it resulted in the accumulation of a very large collection of microscopical material. New equipment was installed and methods of study devised which greatly facilitated the work. The department became an exceedingly busy place and is now the headquarters for such work in the west. Students and professors of both neighboring Universities sought and were given assistance on a great many occasions.

The reduction of Academy time and expense of the curator through the above mentioned arrangement permitted the employment of a full time assistant in the Academy work and the return to the general fund of a considerable part of the original expense appropriation allotted to the department. Mr. Merle C. Israelsky filled the position of assistant very creditably and much valuable work was accomplished during the remainder of the year.

From time to time Mr. William Barbat was temporarily employed in the department and he completed most satisfactorily the arrangement of the vast collection of Gulf of California marine shells. This collection is now stored in such a way that it is readily accessible in any part. Dr. Fred Baker of Point Loma, California, continued his studies of the collection but the final report may not be expected before the close of 1924, owing to the huge task which confronts him.

The field work which was carried on was largely in connection with microscopical studies but considerable collections of higher organisms were obtained at various places in California. The Academy was put to practically no expense in this connection.

Two accessions during the year deserve special mention. Three hundred species of named fossils from Europe were obtained in exchange for minerals from Mr. R. W. Wilke of Palo Alto, California. A very large and accurately labelled collection of California fossils consisting of many thousand specimens was donated by the Southern Pacific Company.

Outstanding loans of material for scientific study from the department at the close of the year were as follows:

Professor Bruce L. Clark, University of California, Berkeley, Fossil mollusks from the Tertiary; Dr. Mary J. Rathbun, U. S. National Museum, Washington, D. C., Fossil crustaceans from Western Teritiary; Dr. Paul Bartsch, U. S. National Museum, Washington, D. C., Marine shells from the Galapagos Islands; and Mr. Donald Hughes, Stanford University, Pleistocene Foraminifera from Lomitas, California.

G. Dallas Hanna, *Curator.*

Library

Work in the library of the Academy during the year 1923 was largely of a routine nature. All books received were accessioned, cataloged and properly shelved, and periodicals and exchanges were collated and arranged on the shelves with the series to which they belong. The task of collating and arranging the accumulated material pertaining to Education, Engineering, Astronomy Meteorology, Physics and a few related subjects, was completed, thus placing the collection of material in the lower library room in shape for convenient use.

During the summer a considerable number of duplicate volumes in the library storeroom was transferred to the library of the Steinhart Aquarium as a loan, where it will be of service in strengthening the library facilities of that department of the Academy's activities.

The total number of volumes added during the year was 357, of which 44 were secured by purchase, 251 by exchange for the publications of the Academy, 39 were added through subscription to scientific serials and 23 were received by gift. This enumeration does not include pamphlets and excerpts of which many were received, mostly as gifts. It is gratifying to note that the Academy is now receiving regularly its exchanges from nearly all countries in the war zone, including Russia, these receipts embracing most or all the back numbers issued since their interruption in 1914.

Use of the library by the Academy staff has increased during the past year as has that by the general membership. More use has also been made of the privilege of inter-library loans which has materially supplemented the resources of the Academy library.

As during the preceding year the work in the library has been done by Mrs. Helen Van Duzee with some assistance during the later weeks of the year from Mr. Dean Burk, both of whom have rendered efficient service.

Edward P. Van Duzee, *Assistant Librarian.*

Department of Mammalogy

Work in this department is carried on in conjunction with that of the Department of Ornithology and by the curator of the latter, so that the field work covers the same territory in both cases.

When the present curator took charge, there was a large accumulation of unprepared osteological specimens, for which there had been no means or time to put in proper condition for preservation. Steam-heated apparatus has been installed upon the roof of the Museum building, and the assistant curator, Miss McLellan, has been devoting her energies during the last part of the year to the preparation of these specimens and with most satisfactory results.

There has been also on hand a number of unprepared hides of large mammals. These have been carefully tanned by Frank Tose, of the Department of Exhibits, and are now stored in their proper place.

The present curator and assistant curator have had their time so occupied as to be unable to finish the identifying and proper labelling of all the specimens in the mammalogical collection, but this work is carried on as time permits and is well under way.

Accessions to the collection have been as follows: *By exploration,* 171 specimens. *By gift:* John Cebrian, 1; H. Walton Clark and William J. Martin, 28; California State Department of Agriculture, 1; Mrs. Kleupfer, 1; Miss Sarah Lindsay, 1; Dr. Homer Righetti, 1; Francis A. Smith, 11; W. M. Phillips, 3; Steinhart Aquarium, 2; U. S. Bureau of Fisheries, 3. *By purchase,* 48 specimens. Specimens in the collection now number 4426.

Joseph Mailliard, *Curator.*

Department of Ornithology

Excellent progress can be reported from this department for the year 1923. All of the cataloging and card-indexing has been brought up-to-date by the assistant curator, Miss M. E. McLellan, who has also completed the mounting and arranging of the egg collection.

Field work has received as much attention as the funds allotted to the department would allow, and included a week's trip in early April to Potholes, Imperial County, California, by the curator, accompanied by Mr. Frank Tose as assistant and Dr. Barton Warren Evermann and Mr. E. P. Van Duzee; continuous field work from April 26 to June 25, with R. J. Woods as a student assistant, and with car and camp equipment, in Shasta, Lassen, and Modoc counties; work conducted at points in Butte and Lassen counties, from August 27 to September 30; and a few days at the end of the year at Inverness, Marin County, California, as the guest of Mr. and Mrs. Hugh B. Logan. Observations were carried on and specimens were secured at all the places visited.

The collections of the department have been made use of by students of ornithology, and school teachers take advantage of the loan collection of birds for use in their classes.

Accessions to the collections have been as follows: Bird skins:—*By exploration,* 464 specimens. *By gift:* Wallace Adams, 111; California Fish and Game Commission, 1; John Cebrian, 1; I. B. Connett, 1; E. C. Counter, Jr., 1; Dr. E. Goodman, 1; Joseph Mailliard, 3; Ignatius McGuire, 1; John McLaren, 2; W. M. Phillips, 3; E. G. Schmiedell, 1; M. J. Smith, 1; Earl B. Snyder, 1; C. A. Westenberg, 1. The total number of specimens on hand at the end of the year 1923 is 39,931, an increase of 593 over last year's total.

Nests and birds' eggs have been received, as follows: *By exploration,* 7 specimens. *By gift:* A. P. Christoffersen, 36; H. J. Grauerhalz, 1; Mrs. Lucy M. Zoberbier, 1.

Joseph Mailliard, *Curator.*

Steinhart Aquarium

The Steinhart Aquarium opened its doors to the public September 29, 1923. The 85 exhibition tanks have all been stocked, maintained, and kept reasonably clean. The several thousands of animals have been regularly fed and cared for, and the building has been kept open to the public every day,—including Sundays and all holidays, from 10 a. m. until 5 p. m.

On January 1, 1924, there were on exhibition a total of 8,046 animals representing 177 species. These are divided among the animal kingdom as follows: 7891 fishes, 75 turtles, 35 snakes, 4 alligators, 12 frogs, 5 fur seals, 2 Steller sea lions, 2 California sea lions, 1 leopard seal, 1 canvas-back duck. Not included in the above total are a number of invertebrates, among them being 200 crabs, starfish, sea urchins, hermit crabs, etc. The mortality list numbers 334 fishes, which is not excessive. Most of these dead specimens have been preserved and form the nucleus of a study collection.

The 16 tanks of tropical fishes from the Hawaiian Islands constitute one of the most popular exhibits in the Aquarium. There are now 226 of these fishes representing 51 species. This number will soon be increased. One of the most satisfactory exhibits is the five tanks of Golden Trout from the Kern River region. All of the known species of Golden Trout are shown, also the Kern River trout, *Salmo gilberti*. Of the 141 golden trout placed in the exhibition tanks July 31, only three small ones have died.

In the normal salt-water tanks the brilliantly-colored Garibaldis (*Hypsypops rubicundus*) form a very attractive exhibit. They share the popular attention, however, with the large California pipefish, leopard sharks, emybro skates and electric rays. There are 407 specimens of fish in the 16 tanks of normal salt-water, representing 45 different species.

The exhibits have been acquired in three different ways:—(1) collected by members of the Aquarium staff; (2) purchased outright; (3) received as gifts. The greater number have been acquired in the first manner. The Steller Sea Lions, California Sea Lions, Leopard Seals, and a few turtles, snakes and frogs have been purchased. The fur seals were obtained through the courtesy of the United States Bureau of Fisheries. Gifts are numerous. Among those who have donated specimens of special value may be mentioned the following:

California Fish and Game Commission through Mr. W. H. Shebley, a large number of trout and other fishes; the Nevada State Fish and Game Commission, 110 albino eastern brook trout; and the New York Aquarium, nine horseshoe crabs. There were many other donations.

The number of invertebrates in the tanks is still comparatively small, consisting of about 220 crabs of several species, a few chitons, sea urchins and starfish, and at present, one octopus. It is hoped to increase the number and add more delicate forms as the tanks become thoroughly leached out and ripened. The invertebrates are apparently more susceptible to lime and mineral salts from the cement and pipes than vertebrates are and it will be some months before these delicate forms can be kept in the tanks without considerable loss.

In addition to the large indoor exhibition tanks there are 20 balanced aquariums, and provision has been made to increase this number to 40. The 10 large balanced aquariums around the planted area were all arranged planted, and their contents donated to the Steinhart Aquarium, by the amateur aquarists of San Francisco, a prize having been offered for the most attractive aquarium and a second prize for the best assemblage of fishes in a single tank.

The central feature in the building is the swamp. This has proved to be an object of unusual interest to visitors. At the present time, in addition to a considerable number of plants and vines, it contains 35 snakes, 4 alligators, 75 turtles, frogs and toads, and 300 fishes of which about 150 are the mosquito fish (*Gambusia affinis*).

Through the courtesy of the California State Fish and Game Commission we have been enabled to keep a supply of young fish in the hatchery. On January 8 a number of dog salmon eggs were placed in the hatchery and were objects of great interest to the visitors. Owing, however, to the eggs being immature when taken, they did not hatch. It is intended soon to add some jars to the equipment and to hatch out not only salmon and trout but shad and other anadromous fishes.

On October 9, through the courtesy of the U. S. Bureau of Fisheries, four two-year old male fur seals were received at the Aquarium from the Pribilof Islands. They were at once placed in the big central pool and some live carp were given to them. The seals immediately captured the carp and began to feed. Since that time we have had very little difficulty in the matter of feeding. On November 29 four two-year-old female fur seals were received from the same source. One refused to eat and died within a few days. Two of the first lot also sickened and died. A careful autopsy showed that death was due to perforation of the alimentary canal caused by a small round worm. The remaining five were treated with a vermifuge with apparently good success, as they are now in good condition, feed freely, and show no evidence of internal parasites. It is interesting to note that they consistently refuse fresh salmon for food. They prefer herring, anchovies or sardines to any other kinds of fish, and will usually refuse a fish if it has been beheaded or sliced. They take octopus and squid freely.

In the east one of the out-door pools we have had since the opening of the Aquarium a fine yearling Leopard or Harbor Seal, captured in San Francisco Bay by some fishermen. For some months it was kept at the Paladini Wholesale Fish Market on Clay Street. The doors of this market were wide open and there was nothing to prevent the seal from returning to the bay, but it made no effort to escape, evidently preferring the atmosphere of the fish market.

On September 12, 1923, two fine California Sea Lions, one of each sex, were purchased from Mr. Will Winston, of Pacific Grove. They are believed to be about one year or eighteen months old, were secured at Santa Barbara, California, and arrived in good condition. They keep in excellent health, and form a lively and interesting addition to the exhibits.

On December 13, 1923, two fine yearling male and female Steller Sea Lions were purchased from Mr. G. M. McGuire of Santa Barbara. They arrived in good condition and were at once placed in the pool with the California Sea Lions. They are of much heavier build and much less active than the California Sea Lions. They feed freely on all kinds of fish and have remained in good condition.

The Library at present contains 610 bound books and perhaps a thousand pamphlets, almost all being a loan from the Academy library. Practically all of these publications relate to Marine Biology.

The Laboratory, although not yet equipped, is being utilized to some extent and forms the meeting place of the thriving San Francisco Aquarium Society of 75 members which meets regularly on the first Thursday evening of each month.

As at present constituted, the personnel of the Aquarium, exclusive of the four members of Academy staff on part time, numbers fifteen people, viz.:—one superintendent; one assistant superintendent; one aquarist; one collector; one carpenter; three feeders and attendants; three engineers; two janitors; one door attendant; and one relief man. This seems a large number, but it is as few as the institution can be operated with efficiently. The machinery and pumps at the Aquarium have to run all the time, night and day, making it necessary to have three shifts of engineers. In order that each one may have one day off in seven a relief man is necessary. It is a pleasure to commend the work of the Aquarium employees and to note the cheerfulness and efficiency with which their work has been performed.

ALVIN SEALE, *Superintendent.*

ACCESSIONS TO MUSEUM AND LIBRARY

Adams, Wallace, Steinhart Aquarium: Assortment of artificial eyes and 7 lbs. arsenical soap and 1 lb. arsenic; The Osprey, Vol. 5, No. 3, January and February, 1901; 111 bird skins from Mexico; 5 separates from the United States Geological Survey Professional Papers. Gift.

American Museum of Natural History, New York City: Three lizards from West Indies. Exchange.

Anderson, Mrs. Eric, Shasta Springs: Two California plants. Gift.

Anderson, Frank, Berkeley: California State Mining Bureau, Bulletin No. 10, first edition. Large collection of Tertiary and Cretaceous fossils from Colombia, South America; collection of living shells from Panama Bay; four specimens of foraminiferal shale from Southern California. Gift.

Anderson, Mrs. S. A., 2604 Etna Street, Berkeley, California: 21 insects from Colombia. Gift.

Arboretum, Arnold, Jamaica Plain, Mass.: Three hundred and ten specimens of North American plants; Zabel collection, 41 specimens, European and exotic. Exchange.

Arundell, Frank, Fillmore, Calif.: Two lizards, *Phrynosoma hernandesi*, female, and *Phrynosoma platyrhinos*, from Arizona. Gift.

Australian Museum, Sydney, N. S. W.: One hundred and one specimens of reptiles and amphibians from Australia. Exchange.

Baker, Dr. Fred, Point Loma: Four species of marine mollusks from Hawaii; 20 land and freshwater shells from Java, China, and Costa Rica. Gift. Three specimens, *Succinea lauta* Gld., from Japan. Exchange.

Barbour, Dr. Thomas, Cambridge, Mass.: Three lizards from China. Exchange.

Bassett, F. W., Jonesville: Twenty-four California plants. Gift.

Behrens, Miss Bertha T., 958 Haight Street, San Francisco: One California plant. Gift.

Berry, Dr. S. S., Redlands: Sixty-six land and freshwater shells from western North America (10 species, including paratypes of three species). Gift.

Bethel, Ellsworth, State Building, Denver, Colorado: 283 California plants, 70 specimens mounted; 33 specimens unmounted. Gift.
Thirty-seven California plants. Exchange.

Billings, F. H., Redlands, California: 26 specimens of California plants. Gift.

Blair, Duke, Skagg: Seven specimens of Realgar. Gift.

Blaisdell, Dr. Frank E., 1520 Lake Street, San Francisco: 362 insects, mostly from Mt. Hermon, California; U. S. D. A. Farmer's Bulletins Nos. 1286 and 1249; U. S. D. A. Year Book 1922; 120 pamphlets. Gift.

Blazic, Antone, 630 Parkman Avenue, Los Angeles: One plant from Massachusetts; 93 specimens southern California exotics. Gift.

Bliss, Mrs., Tahoe City: Three California plants. Gift.

Bowman, C. W., San Francisco: One Alaska parka. Gift.

Boyd, Miss Louise, San Rafael: One botanical specimen from King's Mountain. Gift.

British Museum, London, England: Two frogs from Philippine Islands. Exchange.

Bush, R. E., Georgetown: One California plant. Gift.

Calif. Academy of Sciences Expedition to Galapagos Islands (1905-1906): Two hundred and forty-five land shells (sixty-three lots) including types of fourteen described species and five undescribed subspecies. Exploration.

Gulf of California Expedition, 1921: Collection of marine mollusks numbering approximately 100,000 specimens. Collection of fossil shells numbering about 1,000 specimens. Exploration.

California Department of Agriculture, San Francisco: One *Paradoxurus* sp. in flesh, from Cebu, Philippine Islands. Gift.

California Fish and Game Commission, San Francisco, California: One *Fulica americana* (albino), in flesh, from Santa Cruz County, California. Gift.

Cebrian, John C., 1801 Octavia Street, San Francisco: One *Scapanus* sp. (no data); one fan of Egret feathers; one Gorgonian Coral. Gift.

Christoffersen, A., San Francisco: 36 bird eggs from Sea Lion Rock, Pribilof Islands; 24 botanical specimens and photographs from St. Paul Island, Alaska; 125 insects from St. Paul Island, Alaska. Gift.

Clark, H. Walton, California Academy of Sciences: Four freshwater Pelecypoda; one Microtus in flesh; 27 skulls from San Mateo County. Gift.

Comstock, Dr. John A., Southwest Museum, Los Angeles, California: One rare moth (*Hemileuca brusi*) from California. Gift.

Cornett, I. B., Los Baños: One mounted specimen of *Philacte canagica*, from Los Baños. Gift.

Cornwall, Ira. E., Quarantine Station, Williams Head, Victoria, B. C.: Seven Barnacles from British Columbia; one Barnacle from Humpback Whale. Gift.

Cramsie, Mrs. J. E., Smartsville, California: 12 California plants. Gift.

Daring, W. L., U. S. Forest Service: One California plant. Gift.

De Graw, Mrs., Auberry: One plant from Fresno County. Gift.

d'Eilbert, W. D., Willows: One plant from Butte County. Gift.

Dodds, Clifford, Ventura, California: 1241 insects from Los Mochas, Mexico. Gift.

Dodds, C. T., University of California, Berkeley: One thousand insects from Sinaloa, Mexico. Exchange.

Dolter, Carl, Monterey, California: One specimen *Haliotis kamtschatkana*, Monterey, California. Gift.

Donahoe, Mrs. Joseph, Menlo Park: Two botanical specimens from Menlo Park. Gift.

Eastwood, Miss Alice, California Academy of Sciences, San Francisco: U. S. Department of Agriculture Year-book, 1913 to 1918 (six books); three land snails from northern California; 12 California plants. Gift.

100 Ostracods from Yosemite; 400 specimens of plants from Del Norte County; 121 specimens of plants from Siskiyou and Shasta Counties; 41 specimens of plants from Humboldt County; 45 specimens of plants from Mt. St. Helena; 53 specimens of plants from Yosemite; 96 specimens of plants from Ensenada, Mexico; 44 specimens exotics from Santa Barbara; 56 specimens from Pt. Reyes; 14 specimens from Los Angeles; 24 specimens from Mt. Hamilton and Mt. Diablo; 36 specimens from Shasta Springs; 16 specimens from Yreka and vicinity. Exploration.

Erwin, Richard P., Boise, Idaho: Three small rattlesnakes from X-ray Gulch, five miles east of Boise, Idaho; one large rattlesnake from Indian Creek, about 20 miles south of Boise, Idaho; one gopher-snake taken at Kuna Cave, five miles south of Kuna, Idaho; five rattlesnakes from Snake River at Swan Falls, Ada Co., Idaho. Gift.

Evermann, Dr. Barton Warren, California Academy of Sciences: Six books; one botanical specimen from Amaknak Island, Alaska. Gift.

Three sets (6 eggs) *Auriparus flaviceps flaviceps*, from Imperial County. Exploration.

Fenn, Mrs. R. W. Lindsay: One botanical specimen from Lindsay, Tulare County. Gift.

Fields, W. S., Ferry Building, San Francisco: One botanical specimen from Japan. Gift.

Fleming, George, San Diego: Six native plants from San Diego. Gift.

Fouke Fur Co., St. Louis, Mo.: Three fur-seal skins, one of them showing natural condition of skin before removal of hair, after dressing, and after dyeing. Gift.

Fox, C. L., San Francisco: Two land snails from Sequoia National Forest. Gift.

Fox, C. L., 1621 Vallejo Street, San Francisco: 619 insects, mostly from California. Gift.

Gaylord, E. G., Hanna, Dr. G. D. Menke, J. G., Pacific Oil Company, San Francisco: Lot of Maricopa shale. Gift.

Goodman, Dr. E., San Francisco: One *Phalaropus fulicarius*, in flesh, from San Mateo County, California. Gift.

Goodrich, Calvin, Toledo, Ohio: Forty-one specimens, representing six species of freshwater Gastropoda. Exchange.

Goudkoff, Paul P., Bakersfield: Two specimens *Cardium meekianum*. Gift.

Grant, Miss Adele L., Cornell University, Ithaca, New York: 14 California plants. Gift.

Grauerholz, H. J. San Francisco: Nest of *Cinclus mexicanus unicolor*, from Humboldt County. Gift.

Grevecoeur, Onaga, Kansas: 1541 beetles from Kansas, 900 purchased, 641 presented. Gift and Purchase.

Griffin, Miss Alice, Glen Ellen: One botanical specimen from Sonoma County. Gift.

Haley, Mr. and Mrs. George, San Francisco: One botanical specimen from St. Paul Island. Gift.

Hall, Prof. H. M., Berkeley: Fourteen frogs from California. Gift.

Hallawell, Harry E., Market Street, San Francisco: One cultivated plant, for determination. Gift.

Hanna, Dr. G. Dallas, California Academy of Sciences, San Francisco: United States National Museum, Bulletin 62; University of Michigan, University Bulletin, New Series, Volume 15, No. 15; University of Michigan, Occasional papers of the Museum of Zoology, No. 137; 18 pamphlets. Gift.

Hanna, Marcus A., Department of Geology, University of Washington, Seattle, Washington: A large collection of mollusks from Pyramid Lake, Nevada, consisting of several thousand specimens of two species which are apparently confined to that body of water; fifteen freshwater snails from six miles east of Ensenada, Lower California. Gift.

Hanscome, Russel, 848 Clayton Street, San Francisco: One plant from Marin County. Gift.

Hart, Cecil, Los Angeles: Thirteen weeds from Los Angeles and 40 other plants from southern California. Gift.

Hazard, William, Hallawell Seed Company, San Francisco: One cultivated plant. Gift.

Hercules Powder Co., San Francisco: One tooth of fossil mammoth found in San Diego County, California. Gift.

Hitchcock, J. L., San Francisco: One rattlesnake from Lake County. Gift.

Holladay, Edmund Burke, Pasadena: Four volumes, including old numbers of the Academy's publications, and two photographs. Gift.

Hunt, Miss Clara A., St. Helena: Seven plants from St. Helena. Gift.

Jackson, Miss Belle R., San Rafael: Four California plants. Gift.

Jeffers, Le Roy, New York: Four books. Gift.

Jones, Mr. Frank P., Wilmington, Delaware: 44 insects, mostly from Texas and Arizona. Gift.

Jones, Miss Katherine D., Berkeley: One botanical specimen, exotic, cultivated in California. Gift.

Johnston, Don P., Okeechobee, Florida: One rattlesnake from Florida. Gift.

Johnston, E. C., Lawrence, Kansas: Fourteen botanical specimens from Akutan, Alaska. Gift.

Jordan, Dr. David Starr, Stanford University: One slab fossil fish, and one sample diatomaceous earth from Lompoc. Gift.

Kelley, Mrs. G. Earle, Alameda: One botanical specimen from Porterville and 14 other California plants. Gift.

Kennedy, C. H., Ohio State University: 228 dragon-flies, mostly from California. Gift.

Keys, Miss Jennie G., Sacramento: One California plant. Gift.

King, Miss M. Alice, Placerville: Fifty California plants. Gift.

Kingsley, E. S., San Francisco: One Indian mortar and two pestles. Gift.

Kinsey, Dr. A. C., University of Indiana, Bloomington, Indiana: 114 gall-flies and their galls. Gift.

Klauber, L. M., San Diego: 23 salamanders from New York State, and 108 salamanders from San Diego County. Gift.

Klein, Miss Marie G., San Francisco: One California plant. Gift.

Kleupfer, Mrs., San Francisco: One *Callithrix leucopus*, in flesh, from Panama. Gift.

Kneiss, Karl E., San Francisco: Five echinoid tests, and 156 molluscan shells. Gift.

Knobel, Miss Louise, Hope, Arkansas: 182 insects, from Arkansas. Purchase.

Kusche, J. A. Montebello: 1322 insects from Solomon Islands. Purchase.

Leach, E. R., Piedmont: 149 insects from California. Gift.

Lindsay, Miss Sarah, 159 Ninth Avenue, San Francisco: One *Callithrix leucopus* in flesh. Gift.

Little, Luther, South Pasadena: Five land shells from Riverside County, Gift.

Losing, H. P., Mobile, Alabama. One snake from Alabama. Gift.

Mailliard, Joseph, California Academy of Sciences, San Francisco: A large and valuable collection of freshwater shells from Eagle Lake, 150 specimens of land and freshwater shells from northern California, and one song sparrow from Marin County. Gift.

Accessory materials for Oregon Ground Squirrel and Lewis Woodpecker groups; one red-breasted sapsucker nest from Modoc County; 152 bird skins from Butte, Lassen, Modoc, and Tehama counties; 200 freshwater mollusks from Lassen County; 68 mammal skins and skulls from Butte, Lassen, and Modoc counties; one *Thryomanes bewicki spilurus*, in flesh, from San Francisco; 75 bird skins and 32 mammal skins from Imperial County; 176 bird skins and 36 mammal skins, and 28 mammal skins and skulls from Modoc County; three sets of eggs and two nests from Modoc

County; one nest of White-headed Woodpecker from Lassen County; 47 bird skins from Modoc and Lassen counties; two nests of Marsh Wren from Lassen County; 16 mammal skins from Modoc and Lassen counties; one set eggs from Modoc County. Exploration.

Marshall, Byron C., Imboden, Arkansas: 148 beetles, from Arkansas. Gift.

Martin, Bruce: 93 insects from Colombia, South America. Gift.

Martin, J. O., California Academy of Sciences, San Francisco: 719 insects, mostly from California, including types of seven of his new species of beetles; 14 freshwater shells from Mt. Diablo. Gift.

Martin, Wm. J., Steinhart Aquarium, San Francisco: Six specimens of fossil shells from 12 miles west of Petaluma. Gift.

Mason, H. L., Stanford University: One toad from California. Gift.

McGuire, Ignatius, San Francisco: One *Thryomanes bewicki spilurus*, in flesh, from San Francisco. Gift.

McKelwey, Mrs. Charles W., Arnold Arboretum, Jamaica Plain, Mass.: 189 botanical specimens from Rocky Mountains and New England. Gift.

McKenzie, Mrs. E. R., San Luis Obispo: Four California plants. Gift.

McLaren, John, Golden Gate Park, San Francisco: One specimen of *Buteo borealis calurus* in flesh; one *Macropus rufus* in flesh, from Golden Gate Park; specimens of three Australian plants; one specimen of *Mustela zanthogenys munda* in flesh, from Golden Gate Park; one skunk in flesh, from Golden Gate Park; one *Ardea herodias hyperonca*, in flesh, from Golden Gate Park; one specimen of *Odocoileus virginianus macrourus* fawn, from Golden Gate Park; and one *Chenopsis atrata* in flesh, from San Francisco. Gift.

McLellan, Miss Mary E., San Francisco: Fourteen specimens Fluminicola from Jonesville, Butte County. Exploration.

Meiere, Mrs. Ernest, Los Altos, California: One plant for determination. Gift.

Menzies, Robert, San Rafael: Four cultivated plants from Marin County. Gift.

Merriam, Dr. C. Hart, Lagunitas, California: Four specimens of California plants. Gift.

Michael, Mrs. Enid, Yosemite, California: 13 botanical specimens from Yosemite. Gift.

Miller, Robert C., Department of Zoology, University of California: One vial alcoholic specimens of *Teredo nivalis*. Gift.

Mitchell, Mrs. H. M., San Francisco: Twenty California plants. Gift.

Munz, Philip A., Pomona College, Claremont: 14 specimens of California wild flowers. Exchange.

Museum of Natural History, Leiden, Holland: Four salamanders from Japan. Exchange.

Nijgh & Van Ditmar, Rotterdam, Holland: One book, Modern Holland. Gift.

Norton, A., Pacific Grove: One botanical specimen from Monterey. Gift.

Ogle, Alva E., Ornbaun: One *Bassariscus astutus raptor*, female, in flesh. Purchase.

Orpet, E. O., Park Superintendent, Santa Barbara: Two California plants. Gift.

Pack, Herbert J., Logan, Utah: One toad from Utah. Exchange.

Peters, Herman, San Rafael: 360 insects from Australia. Gift.

Peers, Miss Susie M., San Francisco: Current issues of Science. Gift.

Peterson, A., San Francisco: Indian pestle from near Austin Creek, Duncan Mills, Sonoma County. Gift.

Phillips, Warren, Golden Gate Park Warden: One *Accipiter cooperi* and one *Accipiter velox*, in flesh. Gift.

Ping, Professor, C., Nanking, China: 11 snakes from China. Exchange.

Pomona College, Pomona: 122 botanical specimens from Nicaragua, collected by C. F. Baker, and 106 from southern California, collected by P. A. Munz and Ivan Johnston. Exchange.

Pope, Dr. Saxton, San Francisco: One book, "Hunting with the Bow and Arrow," by Saxton Pope. Gift.

Purdy, Carl, Ukiah: Two California plants. Gift.

Putnam, P. G., Pullman, Washington: 34 salamanders, 41 frogs, 3 lizards, 1 snake, 42 toads, and 3 turtles. Purchase.

Raphael, Miss T. V., Worth Hotel, San Francisco: Five California plants. Gift.

Raven, Miss Gertrude, Tomales: Three California plants. Gift.

Reagan, Albert B., Cornfields, Arizona: One land shell from Cornfields, Arizona, and nine land shells from the Mogollon Mountains, Arizona. Gift.

Redfern, C. M., 52 Shoreview Avenue, San Francisco: Two exotic plants for identification. Gift.

Reed, C. A., Santa Cruz: One California plant. Gift.

Renner, Otto, Paso Robles: Six California plants. Gift.

Rhodes, Captain H. W., Berkeley: Nine books. Gift.

Richards, Mrs. J. E., San Jose: botanical specimen. Gift.

Ricksecker, Mrs. H. E., 1683 Eighth Avenue, San Francisco: 183 insects from Oakland and Cisco. Gift.

Righetti, Dr. Homer, 818 Shreve Building, 210 Post Street, San Francisco: One *Ursus* sp., skull, from Alaska. Gift.

Rixford, Dr. Emmet, 1795 California Street, San Francisco: Two specimens of California plants and three fossil shells from Wildhorse Cañon, Monterey County, collected by Jack Copley for Mrs. Edward Dowd of Monterey. Gift.

Rixford, G. P., San Francisco: Five specimens of exotic plants cultivated in California. Gift.

Robertson, G. D., Los Angeles: One specimen *Turritella uvasana* from San Clemente Cañon, San Diego County. Gift.

Rodda, Mrs. A. F., San Francisco: Forty-one plants from Utah. Gift.

Rose, Alexander, Rose's Nursery, San Francisco: One exotic plant. Gift.

Ruddock, George T., Berkeley: One botanical specimen from Montana. Gift.

Ryan, C. A., Monterey: Six specimens *Ostrea lurida*, from Quaternary deposits, two miles east from Castorville. Gift.

San Francisco International Fish Co., San Francisco: One leather-back turtle (*Dermochelys schlegelii*), caught off Santa Cruz. Gift.

Sessons, Miss Kate O., San Diego: One California plant and specimens of a rare acacia from San Diego. Gift.

Schmiedell, E. G., 203 California Street, San Francisco: One *Circus hudsonicus*, in flesh, from Solano County. Gift.

Scupham, J. R., Oakland: One adult and one young *Didelphis virginiana*, in flesh, from Alameda County. Gift.

Shell Company of California, San Francisco: 125 fossils from Peru. Gift.

Skinner, Kenneth, Brooklands Estate Office, Weybridge, England: 13 sets of bird eggs. Exchange.

Slevin, J. R., California Academy of Sciences: One botanical specimen from Montana and one California plant. Gift. 40 land shells from Todos Santos Island, Lower California, and 136 insects from Lower California, mostly from San Pedro Martir Mountains. Exploration.

Slevin, Louis, Carmel: 509 insects from California, mostly from Monterey County. Gift.

Snyder, Earl B., Ornbaun: One Pygmy Owl, in flesh, from Ornbaun. Gift.

Smith, C. Piper, San Jose: Duplicate of type specimen of a *Lupinus*. Gift.

Smith, Miss Emily S., San Jose: Three California plants. Gift.

Smith, Francis A. (through Dr. David Starr Jordan), Kin Jo Ri, Koksan, Korea: Six skins and five skulls of wild boar from Korea. Gift.

Smith, Mrs. M. J., 501 Irving Street, San Francisco: One mounted specimen of *Eulabes religiosa*, from India. Gift.

Southern Pacific Company, Geological Department, San Francisco: Twelve boxes of fossils and 11 boxes of rock. Gift.

Stacey, J. W., Golden West Hotel, San Francisco: 11 botanical specimens from California localities. Gift.

Steinbeck, W. P., Stockton: 38 California plants. Gift.

Steinhart Aquarium, Golden Gate Park, San Francisco: One *Phoca richardi geronimensis*, juvenile, in flesh: 38 salamanders and one toad from Washington; one skull of *Callorhinus alascanus*, from the Pribilof Islands, from the male that died in the Aquarium Dec. 14, 1923. Gift.

Stephens, Frank, San Diego: Three snakes from San Diego County. Gift. Two boxes pine bark, material for California Woodpecker Group; three immature desert wood rats, and accessory materials for woodrat group; four Dipodomys from San Diego County, in flesh; 34 mammal skins from San Diego County; three skins of Fox Sparrow; two specimens of *Taxidea taxus neglecta*, with skulls, from San Diego County; seven mammal skins and skulls from Riverside and San Bernardino counties. Purchase.

Stephens, Mrs. Kate, San Diego: Eleven species of fossils from Claiborne Eocene. Gift.

Stow, Mrs. Vanderlyn, San Francisco: Nest of *Vespa fernalki*. Gift.

Strecker, John K., Waco, Texas: 548 reptiles and amphibians from southeastern United States and Australia. Exchange.

Sutliffe, Mrs. E. C., San Francisco: Nine California plants; one lizard from Marin County, one snake skin from Alameda Creek, and one rattlesnake skin. Gift.

Swingle, Dr. Walter T., Indio: One botanical specimen from Indio. Gift. 1178 Chinese plants. Exchange.

Thew, Miss Susan P., Exeter: One California plant. Gift.

Tieje, Dr. Arthur S., Los Angeles: Five specimens of diatomaceous earth from Sierra Vista, Los Angeles County. Gift.

Tose, Frank, California Academy of Sciences, San Francisco: Seven birds from San Mateo County; five specimens of *Speotyto cunicularia hypogæa*, from Berkeley, two specimens of *Citellus beecheyi beecheyi*, from Berkeley, three birds from Berkeley, one *Microtus* from San Francisco, one *Sciurus niger rufiventer*, in flesh, from San Francisco, and one example of *Citellus beecheyi beecheyi*, in flesh, from Alameda County. Exploration.

U. S. Bureau of Fisheries, Washington, D. C.: Two skeletons and one skull of *Callorhinus alascanus* from Pribilof Islands. Gift.

U. S. National Museum, Washington, D. C.: 850 botanical specimens. Exchange.

Van Denburgh, Dr. John, California Academy of Sciences, San Francisco: 75 freshwater Gastropods and 50 freshwater Pelecypods from Los Gatos. Gift.

85 nests of common birds, without accompanying sets of eggs and 18 bird skins, common species. Exchange.

Van Duzee, E. P., California Academy of Sciences, San Francisco: Eight specimens of plants from southern California. Gift.

4630 insects, as follows: 1516 from Yuma, Arizona and Potholes, California; 150 from Mt. Diablo; 41 from Mill Valley; 2467 from Ensenada, Lower California; San Diego County, and Mill Creek Cañon; 135 from Huntington Lake; 321 from Pittsburg, and 200 land shells from Utah, collected in the summer of 1922. Exploration.

Van Duzee, Mrs. Helen, San Francisco: One book. Gift.

Walter, Frank, San Diego: One exotic botanical specimen from San Diego. Gift.

Walther, Eric, Golden Gate Park, San Francisco: 46 insects from the Golden Gate Park; 113 exotic plants from Santa Barbara; 20 exotic plants from Monterey; 320 botanical specimens, exotics, cultivated in California; and 120 cultivated plants from Golden Gate Park. Gift.

Westenberg, C. A., 1128 Benvenue Avenue, Berkeley (through H. V. Redmond, 3030 Benvenue Avenue, Berkeley): One *Ara macao*, in flesh, from Mexico. Gift.

Wicks, Miss Ethel, San Francisco: One California plant. Gift.

Wilke, R. M. Palo Alto: Collection of 300 named species of European fossils. Exchange.

Woodrum, J. H., 2038 Ellis Street, San Francisco: Image found in a bag of coffee sent from Brazil to Hills Brothers, San Francisco, in 1923. Gum from New Zealand. Jade (New Zealand Store) from New Zealand, used by Aborigines in making war implements. Gift.

Wright, Mrs. Elizabeth, Calistoga: One California plant. Gift.

Wright, Miss Elizabeth C., Mono Lake, Calistoga, California: Eight specimens. Gift.

Wynd, F. Lyle, Eugene, Oregon: Three Oregon plants. Gift.

Zoberbier, Mrs. Lucy M., San Francisco: One Rhea egg from Argentine Republic. Gift.

FINANCIAL STATEMENTS

REPORT OF THE TREASURER

for the fiscal year ending March 31, 1924

April 1, 1923, Balance due Crocker National Bank	$ 2,249.90

Receipts

Dues	$ 3,862.25	
Charles Crocker Scientific Fund Endowment Income	1,335.13	
James Lick Endowment Income	53,732.24	
General Income	17,602.20	
John W. Hendrie Endowment Income	900.00	
U. S. Treasury Certificates	2,997.50	
Interest	563.91	
Bills Receivable, Ignatz Steinhart Trust	119,000.00	
Ignatz Steinhart Trust Interest	2,826.24	
Ducks of the World Donation	160.00	
J. D. Grant Donation	279.85	
Alaska Fur Seal Motion Pictures (Fouke Fur Company)	290.00	
Wild Life Protection Fund	350.00	
W. G. Wright Fund	43.00	
Publications	404.84	
Sundry Refunds	268.68	
Museum	353.78	
Sundry Accounts	89.33	
Post Card Sales	1,192.41	
		$206,251.36
		$204,001.46

REPORT OF THE TREASURER—Continued

Expenditures

Expense	$ 2,668.04	
Salary Expense (general)	18,022.82	
Bills Payable	10,000.00	
Insurance	2,023.75	
Interest	15,255.53	
Museum Department Appropriations	8,481.35	
Museum Department Salaries	13,995.00	
Library	1,307.12	
Dues Refunded	20.00	
Publication	2,699.35	
Office Furniture	50.00	
Steinhart Aquarium Construction	99,890.49	
Steinhart Aquarium Equipment	17,773.77	
Steinhart Aquarium Revolving Fund	5,000.00	
Antelope Fund	8.76	
Alaska Fur Seal Motion Pictures	290.00	
Wild Life Protection Fund	208.20	
Tools and Equipment	294.02	
Loan to Sperry Flour Company	5,000.00	
Sundry Accounts	502.41	
Sundry Creditors	3,838.34	
Contingent Fund	570.48	
		$207,899.43

March 31, 1924, Balance due the Crocker National Bank.......$ 3,897.97

M. Hall McAllister, *Treasurer.*

Examined and found correct,
McLaren, Goode & Co., *Certified Public Accountants.*
San Francisco, Calif., April 26, 1924.

INCOME AND OPERATING EXPENSES

For the Fiscal Year, April 1, 1923 to March 31, 1924

Income:		
Charles Crocker Scientific Fund Endowment Income		$ 1,335.13
James Lick Endowment Income		53,732.24
General Income		17,602.20
Dues		3,862.25
Interest from Temporary Investments		561.41
Profit on Post Card Sales		424.49
Total Income		$ 77,517.72
Expenditures:		
General Expense	$ 1,821.63	
Salaries	32,444.18	
Interest on Mortgage	15,255.53	
Insurance	2,023.75	
Total Expenditures		$ 51,545.09
Net Income Transferred to Surplus Account		$ 25,972.63

SUMMARY OF SURPLUS ACCOUNT

March 31, 1924

Balance, March 31, 1923		$371,683.00
Additions:		
Net Income for Fiscal Year	$ 25,972.63	
Donations:		
Ducks of the World	200.00	
Accounts Transferred to Surplus by Resolution of Board of Trustees, dated January 28, 1924:		
W. B. Bourne	2,659.31	
Wm. H. Crocker	8,342.26	
Herbert Fleishhacker	4,000.00	
J. D. Grant	2,990.27	
A. K. Macomber	3,500.00	
John W. Mailliard	1,250.00	
Ogden Mills	5,000.00	
Wm. C. Van Antwerp	5,120.00	
Total Additions to Surplus		$ 59,034.47
		$430,717.47
Deductions:		
Depreciation:		
Office Furniture	$ 271.22	
Commercial Building	10,336.37	
Museum Building	3,840.51	
Storage Cases	229.70	
Tools and Equipment	391.04	
		$ 15,068.84
Surplus, March 31, 1924		$415,648.63

IGNATZ STEINHART TRUST

March 31, 1924

Amount of Fund:		
Bequest from the Ignatz Steinhart Estate		$250,000.00
Interest on Temporary Investments		54,975.65
		$304,975.65
Disposition of Fund:		
Steinhart Aquarium Construction	$263,315.69	
Steinhart Aquarium Equipment	22,092.45	
Temporary Investments:		
Bills Receivable	16,000.00	
Revolving Fund	5,000.00	
		$306,408.14
Due Calif. Acad. Sciences, Funds Temporarily Advanced to Steinhart Trust Fund	$ 1,432.49	
		$304,975.65